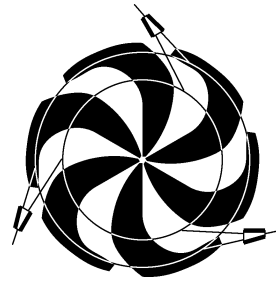


# TRIUMF



## ANNUAL REPORT SCIENTIFIC ACTIVITIES 1997

CANADA'S NATIONAL MESON FACILITY  
OPERATED AS A JOINT VENTURE BY:

UNIVERSITY OF ALBERTA  
SIMON FRASER UNIVERSITY  
UNIVERSITY OF VICTORIA  
UNIVERSITY OF BRITISH COLUMBIA

UNDER A CONTRIBUTION FROM THE  
NATIONAL RESEARCH COUNCIL OF CANADA

ASSOCIATE MEMBERS:

UNIVERSITY OF MANITOBA  
UNIVERSITÉ DE MONTRÉAL  
UNIVERSITY OF REGINA  
UNIVERSITY OF TORONTO

APRIL 1998

*The contributions on individual experiments in this report are outlines intended to demonstrate the extent of scientific activity at TRIUMF during the past year. The outlines are not publications and often contain preliminary results not intended, or not yet ready, for publication. Material from these reports should not be reproduced or quoted without permission from the authors.*

## EXPERIMENT PROPOSALS

The following lists experiment proposals received up to the end of 1997 (missing numbers cover proposals that have been withdrawn or replaced by later versions or rejected or combined with another proposal). Page numbers are given for those experiments which are included in this Annual Report.

Page

1. Low-energy  $\pi$  scattering [completed], R.R. Johnson (*TRIUMF-UBC*), K.L. Erdman (*Univ. of British Columbia*), T. Masterson (*Univ. of Colorado*), P. Walden (*TRIUMF*)
3. The study of fragments emitted in nuclear reactions [completed], R.E.L. Green, R.G. Korteling (*Simon Fraser Univ.*), K.P. Jackson (*TRIUMF*), L. Church (*Reed College*)
6. Studies of the proton- and pion-induced fission of light to medium mass nuclides [completed], B.D. Pate (*Univ. of British Columbia*), H. Blok (*Novatrack*), H. Dautet, F.M. Kiely (*Simon Fraser Univ.*), Z. Fraenkel (*Weizmann Inst.*)
9. A study of the reaction  $\pi^- + p \rightarrow \gamma + n$  at pion kinetic energies from 20–200 MeV [completed], K. Aniol (*California State Univ.*), A. Bagheri, M.D. Hasinoff, D.F. Measday (*Univ. of British Columbia*), J.-M. Poutissou, M. Salomon (*TRIUMF*), R. Poutissou (*Univ. de Montréal*), B.C. Robertson (*Queen's Univ.*)
10. Positive pion production in proton-proton and proton-nucleus reactions [completed], E.G. Auld, G. Jones (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), T. Masterson (*Univ. of Colorado*), P. Walden (*TRIUMF*)
11. Nuclear spectroscopic studies of short-lived radioactive products of high energy reactions [completed], J.M. D'Auria, H. Dautet (*Simon Fraser Univ.*), K.P. Jackson (*TRIUMF*)
14. The interaction of protons with very light nuclei in the energy range 200-500 MeV [completed], J.M. Cameron, G.S. Moss, G. Roy (*Univ. of Alberta*), L.G. Greeniaus, D.A. Hutcheon, C.A. Miller, J.G. Rogers (*TRIUMF*), M. de Jong, W.T.H. van Oers (*Univ. of Manitoba*), C. Goulding (*Los Alamos National Lab*), A.W. Stetz (*Oregon State Univ.*), J. Källne (*JET Joint Undertaking*)
15. A proposal to study quasi-free scattering in nuclei [completed], J.M. Cameron, W.K. Dawson, W.J. McDonald, G.C. Neilson, W.C. Olsen, G.M. Stinson (*Univ. of Alberta*), P. Kitching (*TRIUMF-Univ. of Alberta*), E.D. Earle (*Chalk River Nuclear Labs*), D.A. Hutcheon, C.A. Miller (*TRIUMF*), J.T. Sample (*Research Secretariat of B.C.*), A.W. Stetz (*Oregon State Univ.*), A.N. James (*Univ. of Liverpool*)
21. Optical activity induced by polarized elementary particles [completed], L.D. Hayward, D.C. Walker (*Univ. of British Columbia*)
22. Negative pion capture and absorption on carbon, nitrogen and oxygen [passed to Biomedical Experiments Evaluation Committee], H.B. Knowles (*Washington State Univ.*)
23. Study of decay modes a)  $\pi^0 \rightarrow 3\gamma$ , b)  $\pi^+ \rightarrow e^+ \nu_e \gamma$ , c)  $\pi^+ \rightarrow \pi^0 e^+ \nu_e$  [completed], P. Depommier, J.P. Martin, R. Poutissou (*Univ. de Montréal*), D. Bryman (*TRIUMF-Univ. of Victoria*), J.A. Macdonald, J.-M. Poutissou, M. Salomon (*TRIUMF*), M. Dixit (*National Research Council*), M.D. Hasinoff, D.F. Measday (*Univ. of British Columbia*)
24. Elastic scattering of polarized protons on  $^{12}\text{C}$  [completed], G.A. Moss, G. Roy, D.M. Sheppard,\* H. Sherif (*Univ. of Alberta*), L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*)
26. Measurement of the differential cross section for free neutron-proton scattering and for the reaction  $D(n, p)2n$  [completed], L.P. Robertson (*Univ. of Victoria*), C. Amsler (*CERN*), E.G. Auld, D.A. Axen (*Univ. of British Columbia*), D.V. Bugg, J.A. Edgington (*Univ. of London, QMC*), A.S. Clough (*Univ. of Surrey*), J.R. Richardson\* (*UCLA*), N.M. Stewart (*Univ. of London, Bedford College*), J. Va'vra (*SLAC*)
27. Measurement of the polarization in free neutron-proton scattering [completed], D.A. Axen, E.G. Auld (*Univ. of British Columbia*), C. Amsler, (*CERN*), D.V. Bugg, J.A. Edgington (*Univ. of London, QMC*), A.S. Clough (*Univ. of Surrey*), J.R. Richardson\* (*UCLA*), L.P. Robertson (*Univ. of Victoria*), G. Roy (*Univ. of Alberta*), N.M. Stewart (*Univ. of London, Bedford College*), J. Va'vra (*SLAC*)
35. A study of positive muon depolarization phenomena in chemical systems [completed], J.H. Brewer, D.G. Fleming, D.C. Walker, J.B. Warren\* (*Univ. of British Columbia*), Y.C. Jean (*Univ. of Missouri, KC*), K.M. Crowe (*Lawrence Berkeley Lab*)
40. A proposal for neutron experiments at TRIUMF [completed], D.A. Axen, M.K. Craddock (*Univ. of British Columbia*), I.M. Blair (*AERE Harwell*), D.V. Bugg, J.A. Edgington (*Univ. of London, QMC*), A.S. Clough (*Univ. of Surrey*), N.M. Stewart (*Univ. of London, Bedford College*), J. Va'vra (*SLAC*)

41. a) Radiative capture of pions in light nuclei [completed], b) Charge exchange of stopped negative pions [completed], J.-M. Poutissou, M. Salomon (*TRIUMF*), D. Berghofer, M.K. Craddock, M.D. Hasinoff, R. MacDonald (*Univ. of British Columbia*)
42.  $\pi^-$ - $^3\text{He}$ : a) Strong interaction shift, b) Neutron-neutron scattering length [completed], G.A. Beer, S.K. Kim, G.R. Mason, R.M. Pearce,\* C.E. Picciotto, L.P. Robertson, C.S. Wu (*Univ. of Victoria*), D. Bryman, A. Olin (*TRIUMF-Univ. of Victoria*), J.A. Macdonald, J.S. Vincent (*TRIUMF*), M. Dixit (*National Research Council*), M. Krell (*Univ. de Sherbrooke*)
46. Hyperfine splitting in polarized muonic  $^{209}\text{Bi}$  atoms [completed], G.T. Ewan, H.B. Mak, B.C. Robertson (*Queen's Univ.*), G.A. Beer, G.R. Mason, R.M. Pearce\* (*Univ. of Victoria*), A. Olin (*TRIUMF-Univ. of Victoria*), D.G. Fleming (*Univ. of British Columbia*), K. Nagamine, T. Yamazaki (*Univ. of Tokyo*)
47. Photon asymmetry in radiative muon capture [completed], J.H. Brewer, M.D. Hasinoff, R. MacDonald (*Univ. of British Columbia*), K. Krane (*Oregon State Univ.*), J.-M. Poutissou (*TRIUMF*)
48. Fertile-to-fissile conversion in electrical breeding (spallation) targets [completed], I.M. Thorson, F.M. Kiely (*Simon Fraser Univ.*), B.D. Pate (*Univ. of British Columbia*)
52. Measurement of the  $\pi \rightarrow e\nu$  branching ratio [completed], D. Bryman, A. Olin (*TRIUMF-Univ. of Victoria*), G.R. Mason (*Univ. of Victoria*), D. Berghofer (*Univ. of British Columbia*), M. Dixit (*National Research Council*)
53. Emission of heavy fragments in pion absorption [completed], D.R. Gill, M. Salomon, E.W. Vogt (*TRIUMF*), P.W. Martin, G. Jones (*Univ. of British Columbia*)
54.  $\pi^\pm$  reaction cross-section measurements on isotopes of calcium [completed], R.R. Johnson (*TRIUMF-UBC*), K.L. Erdman (*Univ. of British Columbia*), J.L. Beveridge (*TRIUMF*)
55.  $\mu^-$  capture in deuterium and the two-neutron interaction [completed], J.M. Cameron, W.J. McDonald, G.C. Neilson (*Univ. of Alberta*), H.W. Fearing (*TRIUMF*)
56. A study of the decay of the muon [completed], M.D. Hasinoff, R. MacDonald (*Univ. of British Columbia*), P. Depommier (*Univ. de Montréal*), J.-M. Poutissou, M. Salomon (*TRIUMF*)
57. Search for  $\mu^+ \rightarrow e^+ + \gamma$  decay mode [completed], P. Depommier, J.P. Martin, R. Poutissou (*Univ. de Montréal*), J.-M. Poutissou (*TRIUMF*)
58. Polarization effects of the spin-orbit coupling of nuclear protons [completed], W.K. Dawson, P. Kitching (*TRIUMF-Univ. of Alberta*), J.M. Cameron, W.J. McDonald, G.A. Moss, G.C. Neilson, W.C. Olsen, G. Roy, D.M. Sheppard,\* H. Sherif, G.M. Stinson (*Univ. of Alberta*), D.A. Hutcheon, C.A. Miller (*TRIUMF*), J.T. Sample (*Research Secretariat of B.C.*)
59. Investigation of the ( $p, 2p$ ) reactions on  $^3\text{He}$ ,  $^3\text{H}$  and  $^4\text{He}$  [completed], D.K. Hasell, W.T.H. van Oers (*Univ. of Manitoba*), J.M. Cameron, G.A. Moss (*Univ. of Alberta*), R. Abegg\*, L.G. Greeniaus, J.G. Rogers (*TRIUMF*), M.B. Epstein, D.J. Margaziotis (*California State Univ. LA*), A.W. Stetz (*Oregon State Univ.*)
60. Study of muonium formation in MgO and related insulators and its diffusion into a vacuum [completed], J.H. Brewer, D.G. Fleming, G. Jones, J.B. Warren\* (*Univ. of British Columbia*)
61. Pre-clinical research on the  $\pi^-$  beam at TRIUMF [completed], J. Brosing, C.J. Eaves, R.W. Harrison, M. Korbelik, G.K.Y. Lam, B. Palcic, K.R. Shortt, L.D. Skarsgard (*B.C. Cancer Foundation*), B.G. Douglas, R.O. Kornelsen, M.E.J. Young (*B.C. Cancer Control Agency*), R.M. Henkelman (*Univ. of Toronto*)
65. Radiosensitivities of tumours *in situ* to  $\pi$ -meson irradiation [completed], S. Okada, K. Sakamoto, N. Suzuki (*Univ. of Tokyo*), T. Ono (*Univ. of Alberta*)
66. Survey of  $p$ - $p$  bremsstrahlung far off the energy shell [completed], J.G. Rogers, H.W. Fearing (*TRIUMF*), J.M. Cameron, A.N. Kamal (*Univ. of Alberta*), J.V. Jovanovich (*Univ. of Manitoba*), J.R. Richardson\* (*UCLA*), A.W. Stetz (*Oregon State Univ.*), A. Szyjewicz (*Univ. of Saskatchewan*)
71. Muon spin rotation project [completed], J.H. Brewer, A. Duncan, D.G. Fleming, D.Ll. Williams (*Univ. of British Columbia*), M. Doyama, R. Hayano, K. Nagamine, T. Yamazaki (*Univ. of Tokyo*), B.D. Patterson (*Univ. Zürich*)
72. Solid state studies by muonic x-ray polarization [completed], H. Hayano, K. Nagamine, N. Nishida, T. Yamazaki (*Univ. of Tokyo*), R.M. Pearce\* (*Univ. of Victoria*)
73. Artificial muon polarization [completed], R. Hayano, K. Nagamine, N. Nishida, T. Yamazaki (*Univ. of Tokyo*), J.H. Brewer, D.G. Fleming, M.D. Hasinoff (*Univ. of British Columbia*), H.B. Mak (*Queen's Univ.*)

74. Proposal to measure  $D, R$  and  $R'$  in  $pp$  scattering, 200 to 500 MeV [completed], D.V. Bugg, J.A. Edgington, K. Shakarchi (*Univ. of London, QMC*), D.A. Axen (*Univ. of British Columbia*), A.S. Clough (*Univ. of Surrey*), S. Jaccard (*Univ. de Neuchâtel*), N.M. Stewart (*Univ. of London, Bedford College*), G. Ludgate, C. Oram (*TRIUMF*), J. Va'vra (*SLAC*)
75. The  $d(p, \pi^+)t$  pion production reaction for high momentum transfer [completed], W.C. Olsen (*Univ. of Alberta*), P. Kitching (*TRIUMF-Univ. of Alberta*), E.G. Auld, G. Jones (*Univ. of British Columbia*), H.W. Fearing, D.A. Hutcheon, P. Walden (*TRIUMF*), T. Masterson (*Univ. of Colorado*), C.F. Perdrisat (*College of William and Mary*)
77. Evaporation-cooled metallic cesium target assembly for production of  $^{123}\text{I}$  [completed], J.W. Blue (*NASA*), T.A. Hodges (*Univ. of Victoria*), D. Lyster, R.T. Morrison (*Vancouver General Hospital*), J.S. Vincent (*TRIUMF*), J.B. Warren\* (*Univ. of British Columbia*), W. Wieseahn (*Simon Fraser Univ.*)
78. Importance of defects in  $\mu^+\text{SR}$  in metals [completed], T. Yamazaki, K. Nagamine (*Univ. of Tokyo*), B. Bergersen, J.H. Brewer, D.G. Fleming, L.C. Vaz (*Univ. of British Columbia*), A.T. Stewart (*Queen's Univ.*)
79. (Experiment 'X') Low energy  $\pi$  production as a function of energy at 500 MeV and below [completed], G.A. Beer, G.R. Mason, R.M. Pearce,\* L.P. Robertson (*Univ. of Victoria*), D.A. Bryman, A. Olin (*TRIUMF-Univ. of Victoria*), J.-M. Poutissou, J.S. Vincent (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), J.B. Warren\* (*Univ. of British Columbia*), P.W. James (*Atomic Energy of Canada*)
80. Measurement of pionic x-ray energies, widths and intensities [completed], G.A. Beer, G.R. Mason, R.M. Pearce,\* L.P. Robertson, (*Univ. of Victoria*), D.A. Bryman, A. Olin (*TRIUMF-Univ. of Victoria*), J.A. Macdonald (*TRIUMF*), M. Dixit (*National Research Council*), W.C. Sperry (*Central Washington Univ.*)
83. Bound muon decay in nuclei [completed], J.H. Brewer, M.D. Hasinoff, T. Suzuki (*Univ. of British Columbia*), J. Alster (*Tel-Aviv Univ.*), K. Nagamine (*Univ. of Tokyo*), J.-M. Poutissou (*TRIUMF*)
84. The  $(\pi^\pm, d)$  reaction on light nuclei [deferred], R.R. Johnson (*TRIUMF-UBC*), K.L. Erdman, H.R. Johnston (*Univ. of British Columbia*), T. Masterson (*Univ. of Colorado*), V.G. Lind, R.E. McAdams, O.H. Otteson (*Utah State Univ.*), J.S. Vincent (*TRIUMF*)
86. Elastic and inelastic scattering of polarized protons from calcium and lead [completed], D.A. Hutcheon, C.A. Miller (*TRIUMF*), P. Kitching (*TRIUMF-Univ. of Alberta*), R. Liljestr and, W.J. McDonald, G.C. Neilson, H. Sherif, G.M. Stinson (*Univ. of Alberta*), J.S. Blair (*Univ. of Washington*), D.K. McDaniels (*Univ. of Oregon*)
87. Proton radiography studies at TRIUMF [completed], E.W. Blackmore, G.H. Mackenzie (*TRIUMF*), D.A. Bryman (*TRIUMF-Univ. of Victoria*)
88. Systematic studies of total muon capture rates [completed], R. Hayano, K. Nagamine, T. Yamazaki (*Univ. of Tokyo*), J.H. Brewer, F. Entezami, D.F. Measday, S. Stanislaus (*Univ. of British Columbia*), D. Garner, (*TRIUMF*)
89.  $\mu$  fission [completed], S.N. Kaplan (*Lawrence Berkeley Lab*), S. Ahmad, G.A. Beer, G.R. Mason, R.M. Pearce,\* (*Univ. of Victoria*), A. Olin (*TRIUMF-Univ. of Victoria*), O. H usser (*TRIUMF-SFU*), J.A. Macdonald (*TRIUMF*), A. Mireshghi (*Univ. of California*)
91. Muonium in semiconductors [completed], J.H. Brewer, D.G. Fleming (*Univ. of British Columbia*), K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), K. Nagamine (*Univ. of Tokyo*)
93. Production of radioisotopes at medium energies for pure and applied research [completed], L. Moritz, J.S. Vincent (*TRIUMF*), B.D. Pate, L. Patrick (*Univ. of British Columbia*), C.H.W. Jones (*Simon Fraser Univ.*), D. Lyster, W. Rowe (*Vancouver General Hospital*)
97. Rare electromagnetic decays of pionic atoms [completed], M.D. Hasinoff, E. Mazzucato, D.F. Measday (*Univ. of British Columbia*), J.-M. Poutissou, M. Salomon (*TRIUMF*), P. Depommier, R. Poutissou (*Univ. de Montr al*), B. Bassalleck (*Univ. of New Mexico*), T. Marks (*Los Alamos National Lab*)
99. Studies of  $(p, d)$  reactions in nuclei [completed], A.N. Anderson, J.M. Cameron, W.J. McDonald, G.C. Neilson, W.C. Olsen, G. Roy (*Univ. of Alberta*), W.K. Dawson, P. Kitching (*TRIUMF-Univ. of Alberta*), D.A. Hutcheon, C.A. Miller, J.G. Rogers (*TRIUMF*), J. K allne (*JET Joint Undertaking*), B.K.S. Koene, W.T.H. van Oers (*Univ. of Manitoba*), J.J. Kraushaar, E. Rost, J.R. Shepard (*Univ. of Colorado*), D.K. McDaniels (*Univ. of Oregon*), B.T. Murdoch (*Schlumberger Well Systems*), A. Olin (*TRIUMF-Univ. of Victoria*), A.W. Stetz, L.W. Swenson (*Univ. of Oregon*)
101. Investigation of  $(\pi, 2\pi)$  reaction [letter of intent], E.G. Auld, G. Jones (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), P. Walden (*TRIUMF*)
102. Absolute cross sections of  $^{12}\text{C}(\pi^\pm, \pi, N)^{11}\text{C}$  reactions at low energy [completed], R.G. Korteling (*Simon Fraser Univ.*), G.E. Butler, B.J. Dropesky, R.E.L. Green, C.J. Orth, R.A. Williams (*Los Alamos National Lab*), R.M. Henkelman (*Univ. of Toronto*)

103. Search for target spin dependence in proton elastic scattering [completed], D.P. Gurd, G.A. Moss, G. Roy, H. Sherif, G.M. Stinson (*Univ. of Alberta*)
104. The time projection chamber – A new facility for the study of decays of muons and pions [completed], D.A. Bryman (*TRIUMF–Univ. of Victoria*), M. Dixit, C.K. Hargrove, R. McKee, H. Mes (*National Research Council*), G. Azuelos, A. Bennett, J.A. Macdonald, T. Numa, J.-M. Poutissou, J.E. Spuller (*TRIUMF*) L.P. Robertson, (*Univ. of Victoria*), M.D. Hasinoff (*Univ. of British Columbia*), P. Depommier, J.P. Martin, R. Poutissou, Y. Sirois (*Univ. de Montréal*), H.L. Anderson\* (*Los Alamos National Lab*), A.L. Carter, C. Irwin, D. Kessler, J. Stapeldon (*Carleton Univ.*), C.S. Wright (*Univ. of Chicago*)
105. Backward inclusive scattering [completed], G. Roy, G.A. Moss (*Univ. of Alberta*), J.L. Beveridge, D.A. Hutcheon, R.M. Woloshyn (*TRIUMF*)
108. Meson cascade studies [deferred], G.A. Beer, G.R. Mason (*Univ. of Victoria*), A. Olin (*TRIUMF–Univ. of Victoria*), M. Dixit (*National Research Council*), S.N. Kaplan, C. Wiegand (*Lawrence Berkeley Lab*), J.A. Macdonald (*TRIUMF*), W.C. Sperry (*Central Washington Univ.*)
110. Microdosimetry of  $\pi^-$  beam at TRIUMF [completed], A. Ito, H. Koyama (*Univ. of Tokyo*)
111. Study of the absorption of  $\pi^-$  at rest in  $^4\text{He}$ ,  $^9\text{Be}$ ,  $^{12}\text{C}$ ,  $^{14}\text{N}$  and  $^{16}\text{O}$  [completed], C. Cernigoi, N. Grion, G. Pauli, R. Rui (*Univ. di Trieste and INFN*), R. Cherubini (*Lab Nazionali di Legnaro INFN and Univ. di Padova*), D. Gill (*TRIUMF*), W. Gyles (*Univ. of British Columbia*)
113. A proposal for  $^3\text{He}(p,p)^3\text{He}$  at backward angles [completed], J.M. Cameron, G.A. Moss (*Univ. of Alberta*), B.S. Bhakar, B.K.S. Koene, W.T.H. van Oers (*Univ. of Manitoba*), M.B. Epstein, D.J. Margaziotis (*California State Univ. LA*), R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), J. Källne (*JET Joint Undertaking*), B.T. Murdoch (*Schlumberger Well Systems*), A.W. Stetz (*Oregon State Univ.*)
114. The  $(p, 2p)$  reaction on  $^4\text{He}$  and  $^3\text{He}$  [completed], B.K.S. Koene, W.T.H. van Oers (*Univ. of Manitoba*), M.B. Epstein, D.J. Margaziotis (*California State Univ.*), G.A. Moss (*Univ. of Alberta*), L.G. Greeniaus, J.G. Rogers (*TRIUMF*), B.T. Murdoch (*Schlumberger Well Systems*)
115. Neutral pion production from  $^{208}\text{Bi}$  at intermediate proton energies [completed], J.M. D’Auria, D.H. Boal (*Simon Fraser Univ.*), T. Ward (*Indiana Univ.*), A. Yavin (*Tel-Aviv Univ.*)
117. Single particle inclusive spectra of light fragments over their entire energy range [completed], R.G. Korteling (*Simon Fraser Univ.*), R.E.L. Green (*Los Alamos National Lab*), K.P. Jackson (*TRIUMF*)
119. Small angle scattering of thermal neutrons for the study of magnetism and liquid crystals [completed], A.S. Arrott, J.F. Cochran, S.D. Hanham, B. Heinrich, M.J. Press (*Simon Fraser Univ.*), B.D. Patterson (*Univ. Zürich*)
120. A study of the production and decay of  $^{11}\text{Be}$  with intermediate-energy protons [completed], K.P. Jackson (*TRIUMF-SFU*), J.M. D’Auria, W.J. Wieseahn (*Simon Fraser Univ.*)
121. Test of charge symmetry in  $n$ - $p$  scattering [completed], G.R. Plattner (*Basel Univ.*), J. Birchall, N.E. Davison, W.T.H. van Oers (*Univ. of Manitoba*), D.A. Axen (*Univ. of British Columbia*), J.L. Beveridge, C.A. Miller, J.G. Rogers (*TRIUMF*), W.J. McDonald, G.A. Moss, G. Roy, G.M. Stinson (*Univ. of Alberta*), L.P. Robertson (*Univ. of Victoria*), H.E. Conzett (*Lawrence Berkeley Lab*), S. Mango (*SIN*)
122. A  $\mu\text{SR}$  investigation of dipolar fields in cobalt [completed], A.S. Arrott (*Simon Fraser Univ.*), B.D. Patterson (*Univ. Zürich*)
123. Observation of  $e^+$  channeling from stopped  $\mu^+$  in a crystalline host [completed], A.S. Arrott (*Simon Fraser Univ.*), B.D. Patterson (*Univ. Zürich*)
124. Excitation of giant multipole resonances by intermediate-energy protons [completed], F.E. Bertrand, E. Gross, D.J. Horen, T. Sjören (*Oak Ridge National Lab*), L. Lisantti, D.K. McDaniels, J. Tinsley (*Univ. of Oregon*), L.W. Swenson (*Oregon State Univ.*)
126. Measurement of the line shape of pionic x-rays [deferred], A. Olin (*TRIUMF–Univ. of Victoria*), G.A. Beer, G.R. Mason, R.M. Pearce\* (*Univ. of Victoria*), M. Dixit (*National Research Council*), J.A. Macdonald (*TRIUMF*)
127. Measurement of the strong interaction shift in pionic deuterium [completed], G.A. Beer, G.R. Mason, R.M. Pearce\* (*Univ. of Victoria*), A. Olin (*TRIUMF–Univ. of Victoria*), M. Dixit (*National Research Council*), E. Klempt (*Univ. Mainz*), J.A. Macdonald (*TRIUMF*), C. Wiegand (*Lawrence Berkeley Lab*), A.W. Thomas (*Univ. of Adelaide*)
128. Variation of muonic x-ray intensities with atomic number [completed], G.A. Beer, G.R. Mason (*Univ. of Victoria*), A. Olin (*TRIUMF–Univ. of Victoria*), M. Dixit (*National Research Council*), J.A. Macdonald (*TRIUMF*), W.C. Sperry (*Central Washington Univ.*), C. Wiegand (*Lawrence Berkeley Lab*)

129. Quasielastic pion scattering at resonance energies for light  $T=0$  nuclei [deferred], R.R. Johnson (*TRIUMF-UBC*), B. Barnett, K.L. Erdman, B. Gyles (*Univ. of British Columbia*), G. Azuelos, D. Gill, E.W. Vogt, P. Walden (*TRIUMF*), D. Ashery, A. Errell, A. Yavin (*Tel-Aviv Univ.*), B. Bassalleck (*Univ. of New Mexico*), T. Masterson (*Univ. of Colorado*), A.W. Thomas (*Univ. of Adelaide*)
130. The energy dependence of the polarization parameter in proton-proton scattering [completed], D.A. Axen, E.G. Auld (*Univ. of British Columbia*), D.V. Bugg, J.A. Edgington, W.R. Gibson (*Univ. of London, QMC*), A.S. Clough (*Univ. of Surrey*), N.M. Stewart (*Univ. of London, Bedford College*), M. Comyn, G. Ludgate (*TRIUMF*), J.R. Richardson\* (*UCLA*), L.P. Robertson (*Univ. of Victoria*)
131. A study of  $(\bar{p}, \gamma)$  reactions on  ${}^3\text{H}$  and  ${}^6\text{Li}$  at intermediate energies [completed], J.M. Cameron, W.J. McDonald, G.M. Stinson, I.J. Van Heerden (*Univ. of Alberta*), P. Kitching (*TRIUMF-Univ. of Alberta*), A.W. Stetz, L.W. Swenson (*Oregon State Univ.*), D.A. Hutcheon, C.A. Miller, H.W. Fearing (*TRIUMF*)
132. Differential cross section of the reaction  $pp \rightarrow d\pi^+$  between lab proton energies of 325 to 500 MeV [completed], P.L. Walden (*TRIUMF*), E.G. Auld, G. Jones (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*)
134. Measurement of the eta parameter in muon decay [completed], J.A. Bistirlich, K.M. Crowe, C.J. Martoff, J.M. Miller, W.A. Zajc (*Lawrence Berkeley Lab*), C.M. Clawson (*Univ. of California, Berkeley*), J.H. Brewer (*Univ. of British Columbia*)
137. Lifetime of the positive muon [completed], W. Dey, M. Eckhause, K. Giovanetti, R.D. Hart, R. Hartmann, D.W. Hertzog, J.R. Kane, W.A. Orance, W.C. Phillips, R.T. Siegel, W.F. Vulcan, R.E. Welsh, R.G. Winter (*College of William and Mary*)
138. Surface muon studies of germanium [completed], K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), C.M. Clawson (*Univ. of California, Berkeley*), J.H. Brewer (*Univ. of British Columbia*)
139. Macroscopic diffusion of positive muons in aluminum [completed], K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), C.M. Clawson (*Univ. of California, Berkeley*), J.H. Brewer (*Univ. of British Columbia*)
140. Transfer effects for stopping  $\pi^-$  in  $\text{H}_2\text{-D}_2$  mixtures [completed], M.D. Hasinoff, D.F. Measday (*Univ. of British Columbia*), J.-M. Poutissou, M. Salomon (*TRIUMF*), V. Highland (*Temple Univ.*)
141. Muonic hydrogen at STP – A feasibility study [deferred], J.H. Brewer (*Univ. of British Columbia*), C. Oram (*TRIUMF*)
142. A study of the single scattering mechanism for non-evaporative fragment emission [completed], D.H. Boal, R.G. Korteling (*Simon Fraser Univ.*), K.P. Jackson (*TRIUMF*), R.E.L. Green (*Los Alamos National Lab*)
143. A study by recoil detection of proton-induced reaction on  ${}^9\text{Be}$  [completed], K.P. Jackson (*TRIUMF*), D.H. Boal, J.M. D’Auria, R.G. Korteling (*Simon Fraser Univ.*), R.E.L. Green (*Los Alamos National Lab*)
144. Studies of  $(\bar{p}, d)$  reaction in nuclei [completed], J.M. Cameron, R. Liljestrang, W.J. McDonald, G.C. Neilson, W.C. Olsen, D.M. Sheppard,\* G.M. Stinson (*Univ. of Alberta*), P. Kitching (*TRIUMF-Univ. of Alberta*), J.J. Kraushaar, J.R. Shepard (*Univ. of Colorado*), D.A. Hutcheon, C.A. Miller, J.G. Rogers (*TRIUMF*), C. Stronach (*Virginia State Univ.*), D.K. McDaniels, J. Tinsley (*Univ. of Oregon*)
145. The neutron and gamma-ray correlation in the negative pion capture in  ${}^{165}\text{Ho}$  and  ${}^{181}\text{Ta}$  [completed], Y.K. Lee, R. Levin, L. Madansky (*Johns Hopkins Univ.*)
147. The formation and reactivity of muonium in the gas phase [completed], J.H. Brewer, D.G. Fleming, R.J. Mikula, D.P. Spencer, J.B. Warren\* (*Univ. of British Columbia*), D.M. Garner, R. Kiefl (*TRIUMF*)
149.  $\mu\text{SR}$  studies of phase transition [completed], M. Doyama, R. Nakai, R. Yamamoto, T. Yamazaki (*Univ. of Tokyo*), J.H. Brewer, H. Schilling, D.Ll. Williams (*Univ. of British Columbia*)
150. Utilization of backward muons to study muonium reaction intermediates [completed], J.A. Bartlett, J.C. Brodovitch, S.K. Leung, K.E. Newman, P.W. Percival (*Simon Fraser Univ.*), D.G. Fleming, D.C. Walker (*Univ. of British Columbia*)
151. Interaction of muons with fissile nuclides II [completed], A. Olin (*TRIUMF-Univ. of Victoria*), S. Ahmad, G.A. Beer, R.M. Pearce\* (*Univ. of Victoria*), J.C. Brown (*Lawrence Livermore National Lab*), S.N. Kaplan (*Lawrence Berkeley Lab*), O. Häusser (*TRIUMF-SFU*), J.A. Macdonald (*TRIUMF*)
152. Measurement of the spin rotation parameter  $R$  in  $p\text{-}{}^4\text{He}$  elastic scattering [completed], G.A. Moss, G. Roy, J. Uegaki (*Univ. of Alberta*), R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), C.A. Davis, W.T.H. van Oers (*Univ. of Manitoba*), J.M. Greben (*CSIR/NRMIS, Pretoria*)
153. Elastic scattering of protons from  ${}^3\text{He}$  [completed], W.T.H. van Oers, D.K. Hasell (*Univ. of Manitoba*), J.M. Cameron, G.A. Moss (*Univ. of Alberta*), R. Abegg\*, L.G. Greeniaus, C.A. Miller (*TRIUMF*), M.B. Epstein, D.J. Margaziotis (*California State Univ. LA*), H. Postma (*Technical Univ. Delft*), A.W. Stetz (*Oregon State Univ.*)

154. Muonium in solids [completed], J.H. Brewer, D.G. Fleming, H. Schilling, D.P. Spencer, D.Ll. Williams (*Univ. of British Columbia*), K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), C.M. Clawson (*Univ. of California, Berkeley*), T. Yamazaki (*Univ. of Tokyo*), R. Kiefl (*TRIUMF*), Y.J. Uemura (*Columbia Univ.*)
155. Study of deep hole states in  $^{40}\text{Ca}$  with  $(\bar{p}, 2p)$  reaction [completed], P. Kitching (*TRIUMF–Univ. of Alberta*), P.W. Green, W.J. McDonald, K. Michaelian, W.C. Olsen, D.M. Sheppard,\* J. Soukup, G.M. Stinson, I.J. van Heerden (*Univ. of Alberta*), D.A. Hutcheon, C.A. Miller (*TRIUMF*), A.N. James (*Univ. of Liverpool*)
156. Deuteron production in proton-nucleus collisions [completed], J.M. Cameron, R. Liljestr and, W.J. McDonald, W.C. Olsen, (*Univ. of Alberta*), P. Kitching (*TRIUMF–Univ. of Alberta*), J. K allne (*JET Joint Undertaking*), C.F. Perdrisat (*College of William and Mary*)
157. The chemistry of muonium atoms in condensed media [completed], J.H. Brewer, D.G. Fleming, R. Rist, D.C. Walker (*Univ. of British Columbia*), D. Garner (*TRIUMF*), Y.C. Jean (*Univ. of Missouri–Kansas City*), Y. Ito (*Univ. of Tokyo*), P.W. Percival (*Simon Fraser Univ.*)
158. Study of the reactions  $p^2\text{H} \rightarrow d\pi^+n$  and  $p^3\text{He} \rightarrow t\pi^+p$  [completed], J.M. Cameron, W.J. McDonald, W.C. Olsen, H. Wilson (*Univ. of Alberta*), I. van Heerden (*Univ. of Alberta and Sumi*), P. Kitching (*TRIUMF–Univ. of Alberta*), C.F. Perdrisat (*College of William and Mary*), H.W. Fearing, C.A. Miller (*TRIUMF*), J. K allne (*JET Joint Undertaking*)
159.  $\bar{p}p$  and  $\bar{p}d$  interactions at threshold [completed], E.G. Auld, D.A. Axen, K.L. Erdman, J.B. Warren,\* B.L. White (*Univ. of British Columbia*), M. Comyn (*TRIUMF*), G.A. Beer (*Univ. of Victoria*), W. Dahme (*Univ. Munich*), U. Gastaldi, G. Graff, H. Kalinowsky, E. Kayser, E. Klempt, R. Landau, R. Schulze, R.W. Wodrich, (*Univ. Mainz*), C.J. Martoff (*Lawrence Berkeley Lab*), C. Sabev (*Univ. of Geneva*), P. Truol (*Univ. Z urich*)
160. Studies of some ternary magnetic superconductors with muons [completed], C.Y. Huang (*Los Alamos National Lab*), J.H. Brewer, H. Schilling (*Univ. of British Columbia*), C.W. Clawson (*Univ. of California, Berkeley*), K.M. Crowe, S.E. Kohn, S.S. Rosenblum (*Lawrence Berkeley Lab*), A. Schenck (*SIN*)
161. Studies of spin dynamics of some amorphous spin glasses with muons [completed], C.Y. Huang (*Los Alamos National Lab*), J.H. Brewer, H. Schilling (*Univ. of British Columbia*), C.W. Clawson (*Univ. of California Berkeley*), K.M. Crowe, S.E. Kohn, S.S. Rosenblum (*Lawrence Berkeley Lab*), A. Schenck (*SIN*)
162. Survey of x-ray production of high-energy protons [completed], D.C. Gregory, B.M. Johnson, K.W. Jones (*Brookhaven National Lab*), G.J. Basbas (*Physical Review Letters*), J.T. Sample (*Research Secretariat of B.C.*)
164. Measurement of the  $1/E$  dependence in  $^7\text{Li}(p, n)^7\text{Be}$  reactions [completed], J.M. D’Auria, M. Dombisky (*Simon Fraser Univ.*), T.W. Ward (*Indiana Univ.*), T. Ruth (*TRIUMF*)
165. Cross sections and analysing power measurements of giant resonances for incident 200–500 MeV [completed], J. Lisannti, D.K. McDaniels, J. Tinsley (*Univ. of Oregon*), F.E. Bertrand, E.E. Gross, T. Sjoreen (*Oak Ridge National Lab*), D. Drake (*Los Alamos National Lab*), L.W. Swenson (*Oregon State Univ.*), I. Bergqvist (*Univ. of Lund*)
166. Neutron-nuclear structure with pion [completed], R.R. Johnson (*TRIUMF–UBC*), B. Barnett, K.L. Erdman, W. Gyles (*Univ. of British Columbia*), E.W. Blackmore, D.R. Gill (*TRIUMF*), E.L. Mathie (*Univ. of Regina*), D. Ashery (*Tel-Aviv Univ.*), N. Gri on (*INFN and Univ. di Trieste*), J.J. Kraushaar, T. Masterson (*Univ. of Colorado*), C.A. Wiedner (*Max Planck Institut*), S.A. Martin (*KfA J ulich*)
168.  $2\text{S}$  muonium production from thin foils [completed], R. Kiefl, C.J. Oram (*TRIUMF*), J.H. Brewer, A. Fry, J.B. Warren,\* (*Univ. of British Columbia*), G.M. Marshall (*Univ. of Victoria*)
169. Proton elastic scattering from  $^{16}\text{O}$  [completed], D.A. Hutcheon, C.A. Miller (*TRIUMF*), P. Kitching (*TRIUMF–Univ. of Alberta*), J.M. Cameron, R. Liljestr and, G.C. Neilson, W.C. Olsen, D.M. Sheppard,\* H. Sherif, G.M. Stinson, H. Wilson (*Univ. of Alberta*), P. Schwandt (*Indiana Univ.*), D.K. McDaniels, J. Tinsley (*Univ. of Oregon*), W.T.H. van Oers (*Univ. of Manitoba*)
170. Fission-evaporation competition in heavy nuclei at intermediate energies [completed], P. Kitching (*TRIUMF–Univ. of Alberta*), H. Fielding, S.T. Lam, G.C. Neilson, W.C. Olsen, J. Uegaki (*Univ. of Alberta*), A. Breskin, Z. Fraenkel (*Weizmann Institute*), R. Abegg\*, D.A. Hutcheon (*TRIUMF*)
171. Test of  $T$ -invariance in  $pp$  scattering [completed], R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), J.M. Cameron, D.P. Gurd, R. Liljestr and, G.A. Moss, G. Roy, H. Wilson (*Univ. of Alberta*)
173. Measurement of pionic 4–3 x-ray transitions in heavy nuclei [completed], A. Olin (*TRIUMF–Univ. of Victoria*), G.A. Beer, G.R. Mason (*Univ. of Victoria*), P.R. Poffenberger (*Univ. of Manitoba*), J.A. Macdonald, T. Numao (*TRIUMF*), B. Olaniyi (*Univ. of Ife*)



174. Spin dependence of the  $pp \rightarrow pn\pi^+$  reaction [completed], D.A. Axen, C. Waltham (*Univ. of British Columbia*), D.V. Bugg, J.A. Edgington (*Univ. of London, QMC*), N.M. Stewart (*Univ. of London, Bedford College*), M. Comyn, G. Ludgate (*TRIUMF*), J.R. Richardson\* (*UCLA*), L.P. Robertson (*Univ. of Victoria*), R. Dubois (*SLAC*)
175. An investigation of inclusive one-pion production in proton nucleus collisions [completed], K.D. Bol, M.R. Clover, R.M. DeVries, N.J. Digiacomo, J. Kapustinsky, J.C. Peng, W.E. Sondheim, J.W. Sunier (*Los Alamos National Lab*)
177. Proton radius determinations for C, N and O [completed], R.R. Johnson (*TRIUMF-UBC*), B. Barnett, K.L. Erdman, W. Gyles (*Univ. of British Columbia*), E.W. Blackmore, D.R. Gill (*TRIUMF*), G. Lolos (*Univ. of Regina*), J. Alster (*Tel-Aviv Univ.*), N. Grión (*INFN and Univ. di Trieste*), J.J. Kraushaar, T. Masterson (*Univ. of Colorado*)
178. Nuclear radius studies in the Ca region [completed], R.R. Johnson (*TRIUMF-UBC*), B. Barnett, K.L. Erdman, W. Gyles, (*Univ. of British Columbia*), E.W. Blackmore, D.R. Gill (*TRIUMF*), G. Lolos (*Univ. of Regina*), N. Grión (*INFN and Univ. di Trieste*), J.J. Kraushaar, T. Masterson (*Univ. of Colorado*), S. Martin (*KfA Jülich*), C. Weidner (*Max-Planck Institut*)
182. Measurement of the  $n$ - $p$  spin correlation parameter  $A_{nn}$  [completed], J. Birchall, C.A. Davis, N.E. Davison, W.P. Lee, W.T.H. van Oers (*Univ. of Manitoba*), P.W. Green, W.J. McDonald, G.A. Moss, G. Roy, G.M. Stinson (*Univ. of Alberta*), R. Abegg\*, L.G. Greeniaus, C.A. Miller (*TRIUMF*)
184. Investigation of the  $\vec{p}+^2\text{H} \rightarrow ^3\text{H} + \pi^+$  reaction from 275 to 450 MeV using polarized protons [completed], E.G. Auld, G. Giles, G. Jones, W. Ziegler (*Univ. of British Columbia*), P. Walden (*TRIUMF*)
185. Precise measurement of the polarization parameter  $\xi$ : A search for the effects of a right-handed gauge boson in  $\mu^+$  decay [completed], J. Carr, G. Gidal, A. Jodidio, K. Shinsky, H.M. Steiner, D. Stoker, M. Strovink, R.D. Tripp (*Univ. of California-LBL*), C. Oram (*TRIUMF*), B. Gobbi (*Northwestern Univ.*)
186. Measurement of collision-induced de-excitation rates of the 2S state of muonic helium [completed], M. Eckhause, K. Giovanetti, D. Hertzog, D. Joyce, J. Kane, W. Phillips, R. Siegel, W. Vulcan, R. Welsh, R. Whyley, R.G. Winter (*College of William and Mary*)
187. Pion production from  $^{10}\text{B}$  and  $^{16}\text{O}$  bombarded with polarized protons [completed], E.G. Auld, G. Giles, G. Jones, B. McParland, W. Ziegler, (*Univ. of British Columbia*), G. Lolos (*Univ. of Regina*), W. Falk (*Univ. of Manitoba*), P. Walden (*TRIUMF*)
189. Radiochemical study of  $\sigma_T(E)$  for  $^{209}\text{Bi}(p, \pi^- xn)^{210-x}\text{At}$  reactions from threshold to  $\sim 0.8$  GeV [completed], J.M. D'Auria, M. Dombisky (*Simon Fraser Univ.*), J. Clark (*LAMPF*), T. Ward (*Indiana Univ.*), A. Yavin (*Tel-Aviv Univ.*)
190. Radiative polarized neutron capture on protons [completed], J.M. Cameron, W.J. McDonald, J. Soukup, J. Uegaki (*Univ. of Alberta*), P. Kitching (*TRIUMF-Univ. of Alberta*), R. Abegg\*, D.A. Hutcheon, C.A. Miller (*TRIUMF*), I.J. Van Heerden (*Southern Nuclear Inst.*), A.W. Stetz (*Oregon State Univ.*), Y.M. Shin (*Univ. of Saskatchewan*)
191. Muons and muonium on surfaces [completed], J.H. Brewer, D. Harshman, J.B. Warren\* (*Univ. of British Columbia*), C.J. Oram (*TRIUMF*), K.M. Crowe (*Lawrence Berkeley Lab*), G. Dash (*Univ. of Washington*), W.S. Glausinger, R.F. Marzke (*Arizona State Univ.*)
192. Measurement of the pion production asymmetries from the reaction  $\vec{p}p \rightarrow d\pi^+$  with a polarized proton beam between energies of 400 and 520 MeV [completed], D. Ottewell, P. Walden (*TRIUMF*), W. Falk (*Univ. of Manitoba*), G. Giles, G. Jones, W. Ziegler (*Univ. of British Columbia*), G. Lolos (*Univ. of Regina*)
194. The  $pd \rightarrow t\pi^+$  reaction at 330, 470 and 500 MeV [completed], R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), J.M. Cameron, W.J. McDonald, G.A. Moss, W.C. Olsen, G. Roy, J. Uegaki (*Univ. of Alberta*), C.A. Davis (*Univ. of Manitoba*)
195.  $^{24}\text{Mg}(p, p')^{24}\text{Mg}^* \rightarrow ^{12}\text{C} + ^{12}\text{C}$  [completed], R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), J.M. Cameron, W.K. Dawson, C.A. Moss, G. Roy, H. Sherif, J. Uegaki, H. Wilson (*Univ. of Alberta*), C.A. Davis (*Univ. of Manitoba*)
196. Measurement of pionic x-rays in  $^{23}\text{Na}$ ,  $^{24}\text{Mg}$  and  $^{27}\text{Al}$  [completed], A. Olin (*TRIUMF-Univ. of Victoria*), J.A. Macdonald, T. Numao (*TRIUMF*), G.A. Beer, G.R. Mason (*Univ. of Victoria*), B. Olaniyi (*Univ. of Ife*), P.R. Poffenberger (*Univ. of Manitoba*)
197. A precise measurement of the Lamb shift in muonium in the 2S state [letter of intent], J.H. Brewer, A. Fry, J.B. Warren\* (*Univ. of British Columbia*), R. Kiefl, C. Oram (*TRIUMF*)

198.  $n$ - $p$  total cross section in pure spin states [letter of intent], D.A. Axen, F. Entezami, C. Waltham (*Univ. of British Columbia*), J.A. Edgington (*Univ. of London, QMC*), M. Comyn, G. Ludgate (*TRIUMF*), L.P. Robertson (*Univ. of Victoria*)
199. A study of low energy pion absorption in  $^3\text{He}$  [completed], J. Alster, A. Altman, D. Ashery, L. Lichtenstadt, M.A. Moinester (*Tel-Aviv Univ.*), R.R. Johnson (*TRIUMF-UBC*), B. Barnett, W. Gyles, H. Roser, R. Tacik (*Univ. of British Columbia*), D.A. Gill, J.S. Vincent (*TRIUMF*), K. Aniol (*California State Univ. LA*), S. Levenson (*Northwestern Univ.*)
202. Nuclear radii measurements in the  $A \sim 20$  region [completed], T.E. Drake, R. Sobie (*Univ. of Toronto*), A. Altman, M.A. Moinester (*Tel-Aviv Univ.*), B. Barnett, J. Coopersmith, K.L. Erdman, W. Gyles, R. Tacik (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), G.A. Beer (*Univ. of Victoria*), E.W. Blackmore, D. Gill (*TRIUMF*), A. Olin (*TRIUMF-Univ. of Victoria*), S. Martin (*KfA Jülich*), C. Wiedner (*Max Planck Institut*)
203. Inelastic pion scattering on neon isotopes [completed], T.E. Drake, R. Sobie (*Univ. of Toronto*), A. Altman, M.A. Moinester (*Tel-Aviv Univ.*), B. Barnett, J. Coopersmith, K.L. Erdman, W. Gyles, R. Tacik (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), E.W. Blackmore, D. Gill (*TRIUMF*), S. Martin (*KfA Jülich*), C. Wiedner (*Max-Planck-Institut*), B.H. Wildenthal (*Michigan State Univ.*)
204. Strong interaction shift and width in pionic  $^{22}\text{Ne}$  atoms [completed], G.A. Beer, G.R. Mason (*Univ. of Victoria*), A. Olin (*TRIUMF-Univ. of Victoria*), T.E. Drake, R. Sobie, (*Univ. of Toronto*), B. Olaniyi (*Univ. of Ife*)
205. Tensor analysing power in pion deuterium scattering [complete], L. Dallin, K. Itoh, Y.M. Shin (*Univ. of Saskatchewan*), B. Barnett, K.L. Erdman, W. Gyles, R. Tacik (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), E.W. Blackmore, D.R. Gill, G.D. Wait (*TRIUMF*), G. Lolos (*Univ. of Regina*), K. Aniol (*California State Univ. LA*), T.E. Drake (*Univ. of Toronto*), S. Martin (*KfA Jülich*)
206. A study of  $(p, n)$  and related reactions [completed], D.H. Boal, J.M. D'Auria, R.G. Korteling (*Simon Fraser Univ.*), K.P. Jackson (*TRIUMF*), R. Helmer (*Univ. of Western Ontario*), R.E.L. Green (*Los Alamos National Lab*)
207.  $^{48}\text{Ca}(\bar{p}, p')^{48}\text{Ca}(1^+)$  [completed], R. Abegg\*, D.R. Gill, C.A. Miller (*TRIUMF*), J.M. Cameron (*Univ. of Alberta*), P. Kitching (*TRIUMF-Univ. of Alberta*), C.A. Davis (*Univ. of Manitoba*), J. Coopersmith, (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), G. Berg, S. Martin (*KfA Jülich*), J. Lisantti (*Univ. of Oregon*), M.A. Moinester (*Tel-Aviv Univ.*), R. Santo (*Münster Univ.*)
208. Proton-proton bremsstrahlung [completed], P. Kitching (*TRIUMF-Univ. of Alberta*), P.W. Green, M. Hugi, M. Michaelian, G.C. Neilson, W.C. Olsen, D.M. Sheppard,\* J. Soukup, J. Uegaki, J. Wesick (*Univ. of Alberta*), R. Abegg\*, H.W. Fearing, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), N. Stevenson (*Univ. of Saskatchewan*)
211. The neutron and gamma-ray correlation in the  $\pi^-$  and  $\mu^-$  captures in medium-heavy nuclei [completed], T.J. Hallman, Y.K. Lee, R. Levin, L. Madansky, E. McIntyre (*Johns Hopkins Univ.*), G.R. Mason (*Univ. of Victoria*), K.S. Kang (*Neung Univ.*), B. Olaniyi (*Univ. of Ife*)
212. In search of a tredecabaryon resonance [completed], R. Abegg\*, K.P. Jackson, C.A. Miller (*TRIUMF*), D.H. Boal, J.M. D'Auria, R.G. Korteling (*Simon Fraser Univ.*), R.E.L. Green (*Los Alamos National Lab*), R. Helmer (*Univ. of Western Ontario*)
213. Absorption at rest of  $\pi^-$  in  $^4\text{He}$  and  $^6\text{Li}$  [completed], C. Cernigoi, N. Grion, G. Pauli, R. Rui (*INFN and Univ. di Trieste*), R. Cherubini (*National Lab of Legnaro-Univ. di Padova*), D.R. Gill (*TRIUMF*), W. Gyles (*Univ. of British Columbia*)
215. Inclusive  $(p, p)$  spectra [completed data taking], R.E. Segel, A. Hassan, S.M. Levenson (*Northwestern Univ.*), P. Gumplinger, A.W. Stetz, L.W. Swenson (*Oregon State Univ.*), K.P. Jackson (*TRIUMF*), P.P. Singh (*Indiana Univ.*), J. Tinsley (*Univ. of Oregon*)
216. Investigation of spin-flip resonances and energy dependencies of components of the Love-Franey interaction [completed], F.E. Bertrand, E.E. Gross, D.J. Horen, T.P. Sjoreen (*Oak Ridge National Lab*), J. Lisantti, D.K. McDaniels, J. Tinsley (*Univ. of Oregon*), L.W. Swenson (*Oregon State Univ.*)
217. Low-energy, electromagnetic pion form factors [completed], J.-M. Poutissou (*TRIUMF*), P. Gumplinger, D. Ila, A.W. Stetz (*Oregon State Univ.*), M.D. Hasinoff (*Univ. of British Columbia*), T. Mulera, V. Perez-Mendez, A. Sagle (*Lawrence Berkeley Lab*)
218. Pion production from  $^{12}\text{C}$  and  $^{10}\text{B}$  with polarized protons of 350 MeV [completed], G. Lolos (*Univ. of Regina*), R.R. Johnson (*TRIUMF-UBC*), G. Giles, G. Jones, B. McParland (*Univ. of British Columbia*), D. Ottewell, P. Walden (*TRIUMF*), R.D. Bent (*IUCF*), W. Falk (*Univ. of Manitoba*)

219. The chemistry of pionic hydrogen atoms [completed], D. Horváth (*Central Research Inst. for Physics, Budapest*), D.F. Measday, S. Stanislaus (*Univ. of British Columbia*), M. Salomon (*TRIUMF*), K. Aniol (*California State Univ. LA*)
220. Temperature dependence of the spin exchange cross sections between muonium and alkali metal [completed], D.J. Arseneau, D.G. Fleming, M. Senba (*Univ. of British Columbia*), D.M. Garner (*TRIUMF*)
221. Search for evidence of a delta-nucleus intermediate state in proton elastic scattering [completed data taking], C.A. Davis, W.P. Lee, W.T.H. van Oers (*Univ. of Manitoba*), H.O. Meyer (*IUCF*), P. Schwandt (*Indiana Univ.*), K.P. Jackson (*TRIUMF*), H.W. Roser (*Univ. of British Columbia*)
223. The  ${}^2\text{H}(p, 2p)$  reaction and momentum distributions of the deuteron [completed], H.P. Gubler, W.P. Lee, W.T.H. van Oers (*Univ. of Manitoba*), C.F. Perdrisat (*College of William and Mary*), J.M. Cameron (*IUCF*), M.B. Epstein, D.J. Margaziotis (*California State Univ.*), H. Postma (*Technical Univ. Delft*), A.W. Stetz (*Oregon State Univ.*), R. Abegg\* (*TRIUMF*)
224. Inclusive pion scattering from light nuclei [completed], K.G.R. Doss, I. Halpern, M. Khandaker, D.W. Storm (*Univ. of Washington*), J.F. Amann (*Los Alamos National Lab*)
225. Search for isovector properties of IBA nuclei [deferred], J. Alster, J. Lichtenstadt, M. Moinester (*Tel-Aviv Univ.*), G. Azuelos, D.R. Gill (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), B.M. Barnett, W. Gyles, H. Roser, R. Tacik (*Univ. of British Columbia*), S. Martin (*KfA Jülich*), R. Sobie (*Univ. of Toronto*), K. Aniol (*California State Univ. LA*)
226. Study of neutron-proton transition amplitudes in  ${}^{14}\text{C}$  using 50 MeV pions [completed], R.R. Johnson (*TRIUMF-UBC*), H. Roser, R. Tacik (*Univ. of British Columbia*), K. Aniol (*California State Univ. LA*), J. Alster, J. Lichtenstadt, M.A. Moinester (*Tel-Aviv Univ.*), G. Azuelos, D.R. Gill (*TRIUMF*), S. Martin (*KfA Jülich*), R. Sobie (*Univ. of Toronto*), H.W. Baer (*LAMPF*)
227. Elastic and inelastic scattering of polarized protons from  ${}^{10}\text{B}$  [completed], P.R. Andrews, S.M. Banks, P. Lewis, V.C. Officer, G.G. Shute, B.M. Spicer (*Univ. of Melbourne*), C.W. Glover (*IUCF*)
229. Pion double charge exchange at low energy in the TPC [completed], D.A. Bryman, M.J. Leitch, I. Navon, A. Olin, P. Schlatter (*TRIUMF-Univ. of Victoria*), A. Burnham,\* M. Hasinoff (*Univ. of British Columbia*), G. Azuelos, J.A. Macdonald, T. Numa, J.-M. Poutissou, J. Spuller (*TRIUMF*), P. Depommier, R. Poutissou (*Univ. de Montréal*), M. Blecher, K. Gotow (*VPI and State Univ.*), M. Dixit, C.K. Hargrove, H. Mes (*National Research Council*), M.A. Moinester (*Tel-Aviv Univ.*), H. Baer, M. Cooper (*LAMPF*)
230. Muonic molecule formation rates in HD gas [completed], K. Aniol (*California State Univ. LA*), F. Entezami, D.F. Measday, C. Virtue (*Univ. of British Columbia*), D. Horváth (*Central Research Inst. for Physics, Budapest*), M. Salomon (*TRIUMF*), J. Smith (*Univ. of Surrey*), S.E. Jones (*Idaho National Engineering Lab*), B.C. Robertson (*Queen's Univ.*)
231. Studies of light pionic atoms [completed], G.A. Beer, G.R. Mason, G.M. Marshall (*Univ. of Victoria*), A. Olin (*TRIUMF-Univ. of Victoria*), J.A. Macdonald (*TRIUMF*), E. Klempt (*Johannes Gutenberg Univ., Mainz*), C. Wiegand (*Lawrence Berkeley Lab*), K. Wetzel (*Univ. of Portland*), W.C. Sperry (*Central Washington Univ.*), B.H. Olaniyi (*Univ. of Ife*)
232. Muon Knight shifts in metals [completed], J.H. Brewer, E. Koster, D.Ll. Williams (*Univ. of British Columbia*)
233. Vector analysing power and spin transfer parameters for the  $\pi^+d \rightarrow \bar{p}p$  reaction [completed], E.G. Auld, P. Couvert, G. Jones, B. McParland (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), D. Ottewell, P. Walden (*TRIUMF*), G. Lolos (*Univ. of Regina*), W. Falk (*Univ. of Manitoba*)
234. Study of simple features of the  $A(p, \pi^-)A + 1$  reaction in the (3,3) resonance region [completed], R.D. Bent (*IUCF*), G.J. Lolos (*Univ. of Regina*), G.E. Walker (*Indiana Univ.*), P. Couvert, G. Giles, G. Jones, B. McParland, W. Ziegler (*Univ. of British Columbia*), J. Iqbal, P. Walden (*TRIUMF*), W.R. Falk (*Univ. of Manitoba*)
236.  $(p, p')$  reactions in nuclei [completed], R.E. Azuma, T.E. Drake, J.D. King, S.S.M. Wong, X. Zhu (*Univ. of Toronto*), K.P. Jackson, S. Yen (*TRIUMF*), A. Zaringhalan (*Bell Laboratories*)
237. Proton-nucleus interaction [completed], R.E. Azuma, T.E. Drake, J.D. King, S.S.M. Wong, X. Zhu (*Univ. of Toronto*), S. Yen (*TRIUMF*)
238. Inelastic proton excitation of low-lying nuclear states for  $E_p = 200\text{--}500$  MeV [completed], R.L. Auble, R.E. Bertrand, E.E. Gross, D.J. Horen, G.R. Satchler, T.P. Sjoreen (*Oak Ridge National Lab*), D.K. McDaniels, J. Tinsley, J. Lisantti (*Univ. of Oregon*), L.W. Swenson (*Oregon State Univ.*)
239. Muon spin relaxation studies of spin glasses and random spin systems [completed], Y.J. Uemura (*Columbia Univ.*), J.H. Brewer (*Univ. of British Columbia*), K.M. Crowe (*Lawrence Berkeley Lab*), T. Yamazaki (*Univ. of Tokyo*), Y. Miyako, K. Katsumata (*Univ. of Hokkaido*), S. Chikazawa (*Muroran Inst. of Technology*)

241. Temperature dependence of reaction rate constants for muonium addition reactions in liquid phases [completed], K.L. Cheng, R.L. Ganti, Y.C. Jean (*Univ. of Missouri-Kansas City*), D.C. Walker (*Univ. of British Columbia*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*)
242. Radiochemical study of the  $(p, \pi^+)$  reaction on bismuth [completed data taking], J. D'Auria, M. Dombisky (*Simon Fraser Univ.*), T. Ruth (*TRIUMF*), T. Ward (*IUCF*), A. Yavin (*Tel-Aviv Univ.*)
243. Energy and angle dependence of the  ${}^6\text{Li}(\pi^+, {}^3\text{He}){}^3\text{He}$  reaction [completed], G. Huber, G.J. Lolos, S.I.H. Naqvi, Z. Papandreou (*Univ. of Regina*), E.G. Auld, P. Couvert, G. Jones, B.J. McParland (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), D. Ottewell, P.L. Walden (*TRIUMF*)
244.  $\mu^+$  spin relaxation in  $\text{Y}_9\text{Co}_7$  and ternary magnetic superconductors [completed], E.J. Ansaldo (*Univ. of Saskatchewan*), C.Y. Huang (*Los Alamos National Lab*), J.H. Brewer, M. Senba (*Univ. of British Columbia*), K. Crowe (*Univ. of California, Berkeley*), S.S. Rosenblum (*Lawrence Berkeley Lab*), D.R. Harshman (*AT&T Laboratories*)
245. Muon spin rotation studies of unsupported and supported platinum catalysts [completed], W.S. Glausinger, R.F. Marzke (*Arizona State Univ.*), E. Ansaldo (*Univ. of Saskatchewan*), J.H. Brewer, S. Kreitzman, D. Noakes, M. Senba (*Univ. of British Columbia*), R. Keitel (*TRIUMF*), D.R. Harshman (*AT&T Laboratories*)
246. The double charge exchange reaction at  $T = 50$  MeV on  ${}^{18}\text{O}$  using the QQD spectrometer [completed], E.W. Blackmore, D.R. Gill (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), K.L. Erdman, H. Roser, R. Tacik (*Univ. of British Columbia*), A. Altman, M.A. Moinester (*Tel-Aviv Univ.*), S. Martin (*KfA, Jülich*), C.A. Wiedner (*MPI, Heidelberg*), T. Drake, R. Sobie (*Univ. of Toronto*), T.G. Masterson (*Univ. of Colorado*)
247. Precise measurement of muon decay asymmetry parameter  $\delta$  [completed], J. Carr, G. Gidal (*Lawrence Berkeley Lab*), A. Jodidio, K.A. Shinsky, H.M. Steiner, D. Stoker, M. Strovink, R.D. Tripp (*Univ. of California, Berkeley-LBL*), B. Gobbi (*Northwestern Univ.*), C.J. Oram (*TRIUMF*)
248. A study of the  $\pi^+ \rightarrow e^+ \nu_e$  decay [completed], J.A. Macdonald, T. Numao, J.-M. Poutissou (*TRIUMF*), D.A. Bryman, A. Olin (*TRIUMF-Univ. of Victoria*), M.S. Dixit (*National Research Council*)
249. Radiative muon capture on hydrogen with the TPC [succeeded by 452], G. Azuelos, J.A. Macdonald, T. Numao, J.-M. Poutissou, J. Spuller (*TRIUMF*), G. Bavaria, P. Depommier, H. Jeremie, L. Lessard, J.P. Martin, R. Poutissou (*Univ. de Montréal*), D.A. Bryman (*TRIUMF-Univ. of Victoria*), M. Leitch, I. Navon, P. Schlatter (*Univ. of Victoria*), A. Burnham,\* M.D. Hasinoff (*Univ. of British Columbia*), M. Blecher, K. Gotow (*VPI & State Univ.*), M. Dixit, C.K. Hargrove, H. Mes (*National Research Council*), J. Bailey (*Yale Univ.*)
250. Charge-exchange coincident with X/gamma-rays in pionic phosphorus [completed data taking], J.M. Bailey (*Yale Univ.*), G.A. Beer, G.R. Mason (*Univ. of Victoria*), D.F. Measday (*Univ. of British Columbia*), A. Olin (*TRIUMF-Univ. of Victoria*), M. Salomon (*TRIUMF*), P.R. Poffenberger (*Univ. of Manitoba*)
251. Coincident optical and x-ray transitions in muonic helium [deferred], J.M. Bailey (*Yale Univ.*), C.J. Oram (*TRIUMF*), G.M. Marshall (*Univ. of Victoria*), J.D. Silver, D.N. Stacey (*Oxford Univ.*)
252. Excitation of giant multipole resonances in  $sd$ -shell nuclei via medium energy proton inelastic scattering [completed], F.E. Bertrand, C.B. Fulmer, E.E. Gross, D.J. Horen, T.P. Sjoreen (*Oak Ridge National Lab*), J. Lisantti, D.K. McDaniels, J.R. Tinsley (*Univ. of Oregon*), L.W. Swenson (*Oregon State Univ.*), T.A. Carey, K. Jones, J.B. McClelland, S. Seestrom-Morris (*Los Alamos National Lab*)
254. Total reaction cross sections on nuclei in the 50–80 MeV range [completed], E. Friedman (*Hebrew Univ. Jerusalem*), D. Gill (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Rozon (*Univ. of British Columbia*), J. Lapointe (*Univ. de Laval*), A. Altman (*Tel-Aviv Univ.*)
255. A study of pion absorption on two nucleons, each from a different shell, through the  ${}^{18}\text{O}(\pi^+, 2p){}^{16}\text{N}$  reaction [replaced by 328], A. Altman, D. Ashery (*Tel-Aviv Univ.*), R.R. Johnson (*TRIUMF-UBC*), H. Roser, R. Tacik (*Univ. of British Columbia*), D.R. Gill, U. Wienands (*TRIUMF*), K. Aniol (*California State Univ. LA*), C.A. Wiedner (*MPI, Heidelberg*), T. Drake, R. Sobie (*Univ. of Toronto*), N. Grión (*INFN Trieste*)
257. Pion radiative capture in  ${}^3\text{He}$  and  ${}^{15}\text{N}$  [deferred], D.F. Measday, F. Entezami, M.D. Hasinoff, S. Stanislaus (*Univ. of British Columbia*), M. Salomon, J. Vincent (*TRIUMF*)
258. Radiative decay of the  $\Delta$  resonance [replaced by 537], D.F. Measday, F. Entezami, S. Stanislaus (*Univ. of British Columbia*), M. Salomon (*TRIUMF*)
260. The reaction of muonium with hydrogen peroxide in water [completed], J.A. Bartlett, J.-C. Brodovitch, S.-K. Leung, K.E. Newman, P.W. Percival (*Simon Fraser Univ.*)
261. Muon spin rotation of paramagnetic solutions [completed], J.A. Bartlett, J.-C. Brodovitch, S.-K. Leung, K.E. Newman, P.W. Percival (*Simon Fraser Univ.*)

262. Muonium-radical formation mechanism [completed], D.C. Walker (*Univ. of British Columbia*), Y. Miyake (*TRIUMF*), R. Ganti, Y.C. Jean (*Univ. of Missouri-Kansas City*), J.M. Stadlbauer\* (*Hood College*), Y. Katsumura (*Univ. of Tokyo*), D. Livesey (*Univ. of New Brunswick*), R. Catterall (*Univ. of Salford*), B.W. Ng (*Winona State Univ.*)
263. The pion-nucleus interaction [completed], T.E. Drake, R. Schubank, R.J. Sobie (*Univ. of Toronto*), R.R. Johnson (*TRIUMF-UBC*), D. Gill (*TRIUMF*)
264. The proton-nucleus interaction [completed], R.E. Azuma, L. Buchmann, T.E. Drake, J.D. King, L. Lee, S.S.M. Wong, X. Zhu (*Univ. of Toronto*), C.A. Miller, S. Yen (*TRIUMF*)
265. The  $(p, n)$  reaction as a probe of isovector effective interactions at TRIUMF energies [completed], W.P. Alford, R.L. Helmer (*Univ. of Western Ontario*), R.E. Azuma, D. Frekers (*Univ. of Toronto*), J. D'Auria (*Simon Fraser Univ.*), O. Häusser (*TRIUMF-SFU*), K.P. Jackson, S. Yen (*TRIUMF*)
266. Initial studies of the  $(n, p)$  reaction on light nuclei [completed], K.P. Jackson, S. Yen (*TRIUMF*), W.P. Alford, R.L. Helmer (*Univ. of Western Ontario*), J.M. D'Auria (*Simon Fraser Univ.*), O. Häusser (*TRIUMF-SFU*)
267. Isovector  $T_{>}$  transitions in  $(fp)$  shell nuclei studies by the  $(n, p)$  reaction [deferred], O. Häusser (*TRIUMF-SFU*), J. D'Auria (*Simon Fraser Univ.*), K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Altman (*Tel-Aviv Univ.*), W.P. Alford, R.L. Helmer (*Univ. of Western Ontario*), I.S. Towner (*Chalk River Nuclear Labs*)
268. Enhancement of  $1^+$  states in  $^{208}\text{Pb}$   $(n, p)$ : A search for the  $\Delta$  [completed], K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), W.P. Alford, R.L. Helmer (*Univ. of Western Ontario*)
269. Inelastic pion scattering from  $^{30}\text{Si}$  at  $T_\pi = 50$  MeV [deferred], C.A. Wiedner (*MPI, Heidelberg*), K. Erdman, B. Forster\*, R. Tacik (*Univ. of British Columbia*), A. Altman (*Tel-Aviv Univ.*), D.A. Gill, U. Wienands (*TRIUMF*), T. Drake, R. Sobie (*Univ. of Toronto*)
270. Test of charge symmetry by a comparison of  $\pi^-d \rightarrow nn$  with  $\pi^+d \rightarrow pp$  [completed data taking], A.D. Eichon, J. Engelage, G.J. Kim, A.A. Mokhtari, B.M.K. Nefkens, J.A. Wightman, H.J. Ziock (*UCLA*), R.R. Johnson (*TRIUMF-UBC*), G. Jones (*Univ. of British Columbia*), A. Altman (*Tel-Aviv Univ.*), W.J. Briscoe, C.J. Seftor, M.F. Taragin (*George Washington Univ.*), T.E. Drake (*Univ. of Toronto*), D.R. Gill (*TRIUMF*), J.R. Richardson\* (*TRIUMF-UCLA*), P. Truöl (*Univ. Zürich*), K. Aniol (*California State Univ. LA*)
271. Study of isovector giant resonances via the  $(n, p)$  reaction at 200 and 500 MeV [deferred], P.R. Andrews, S.M. Banks, P.B. Foot, B. Lay, P. Lewis, V.C. Officer, G.G. Shute, B.M. Spicer (*Univ. of Melbourne*)
272. Transverse spin flip probabilities in  $^{24}\text{Mg}(\bar{p}, \bar{p}')$  and  $^{48}\text{Ca}(\bar{p}, \bar{p}')$  [completed], O. Häusser (*TRIUMF-SFU*), R. Abegg\*, K.P. Jackson (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), C.A. Wiedner (*MPI, Heidelberg*), T.E. Drake (*Univ. of Toronto*), J. Lisantti, D. McDaniels, J. Tinsley (*Univ. of Oregon*)
273. Triplet  $\mu^-p$  absorption in  $\text{H}_2$  gas [letter of intent], J. Bailey (*Yale Univ.*), G. Azuelos, C. Oram (*TRIUMF*), J. Brewer, K. Erdman (*Univ. of British Columbia*), K. Crowe (*Univ. of California, Berkeley*)
274. Singlet final state interaction in the  $pp \rightarrow pn\pi^+$  reaction [completed], E.G. Auld, P. Couvert, G. Jones, W. Ziegler (*Univ. of British Columbia*), W. Falk (*Univ. of Manitoba*), P. Walden (*TRIUMF*), G. Lolos (*Univ. of Regina*)
275. Muons in, and muonium from, vanadium [completed], J. Bailey (*Yale Univ.*), J. Brewer, J.B. Warren\* (*Univ. of British Columbia*), G. Marshall (*Univ. of Victoria*), D. Garner, R. Kiefl, C. Oram (*TRIUMF*), A. Olin (*TRIUMF-Univ. of Victoria*), D. Harshman (*AT&T Laboratories*)
276. Diluted magnetic semiconductors [completed], E.J. Ansaldo (*Univ. of Saskatchewan*), J. Bailey (*Yale Univ.*), J.H. Brewer, S. Kreitzman, D. Noakes, M. Senba (*Univ. of British Columbia*), R. Keitel (*TRIUMF*), K.M. Crowe (*Univ. of California, Berkeley*), J. Furdyna (*Purdue Univ.*), Y.J. Uemura (*Brookhaven National Lab*), T.L. Estle (*Rice Univ.*), D. Harshman (*AT&T Laboratories*)
277. The branching ratio of the rare decay  $\pi^0 \rightarrow e^+e^-$  [completed], M.D. Hasinoff, C. Waltham (*Univ. of British Columbia*), D.A. Bryman (*TRIUMF-Univ. of Victoria*), E. Clifford (*Univ. of Victoria*), G. Azuelos, T. Numao, J.-M. Poutissou (*TRIUMF*), P. Depommier, H. Jeremie, R. Poutissou (*Univ. de Montréal*), C.K. Hargrove, H. Mes (*National Research Council*), B. Robertson (*Queen's Univ.*), T.A. Mulera, V. Perez-Mendez (*Lawrence Berkeley Lab*), M. Blecher (*Virginia Polytechnic Inst. & State Univ.*), A.W. Stetz (*Oregon State Univ.*)
278. Inelastic scattering of 30 and 50 MeV  $\pi^+$  projectiles from the  $0_2^+$  state in  $^{12}\text{C}$  [completed], L. Buchmann, T.E. Drake, L. Lee, R.J. Sobie (*Univ. of Toronto*), D.R. Gill, B. Jennings (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), N. de Takacsy (*McGill Univ.*)
279. Non-analog pion single charge exchange total cross section on  $^7\text{Li}$  at low energies [completed], B.J. Dropesky, G.C. Giesler, R.E.L. Green, M.J. Leitch, Y. Ohkubo, C.J. Orth (*LAMPF*), A. Olin (*TRIUMF-Univ. of Victoria*), R.G. Korteling (*Simon Fraser Univ.*)

280. Study of giant isovector spin resonances via the  $(p, n)$  and  $(n, p)$  reactions at 350 MeV [deferred], A. Altman, J. Alster, N. Auerbach, M.A. Moinester, S. Wood, A.I. Yavin (*Tel-Aviv Univ.*), O. Häusser (*TRIUMF-SFU*), A. Moalem (*Ben-Gurion Univ.*), W.P. Alford (*Univ. of Western Ontario*), A. Klein (*Univ. of Georgia*)
281. Investigations of pion absorption reactions  ${}^6\text{Li}, {}^{12}\text{C}(\pi^\pm, X_1)X_2$  [completed], G. Huber, G.J. Lolos, S.I.H. Naqvi, V. Pafilis, Z. Papandreou (*Univ. of Regina*), D. Gill, D. Ottewell, P.L. Walden (*TRIUMF*), E.G. Auld, G. Jones (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), X. Aslanoglou (*Florida State Univ.*)
282. Exchange effects in  $0^+ \rightarrow 0^-$  inelastic scattering [completed], R.E. Azuma, L. Buchmann, T.E. Drake, D. Frekers, J.D. King, S.S.M. Wong, X. Zhu (*Univ. of Toronto*)
283. (Combined with 295)
284. A study of the decays  $\pi^+ \rightarrow e^+e^-e^+\nu$  and  $\pi^+ \rightarrow e^+\nu\gamma$  [deferred], M. Blecher (*Virginia Polytechnic Inst. & State Univ.*), D.A. Bryman (*TRIUMF-Univ. of Victoria*), E. Clifford, P. Schlatter (*Univ. of Victoria*), M. Dixit, C.K. Hargrove, H. Mes (*National Research Council*), G. Azuelos, T. Numao, J.-M. Poutissou (*TRIUMF*), P. Depommier (*Univ. de Montréal*), A. Burnham,\* M.D. Hasinoff, C. Waltham (*Univ. of British Columbia*), T. Mulura, V. Perez-Mendez (*Lawrence Berkeley Lab*)
285. Elastic scattering of pions by  ${}^3,4\text{He}$  for pion energies between 20 and 50 MeV [completed], K.M. Crowe, C.A. Meyer (*Univ. of California, Berkeley*), D.R. Gill, D. Healey, U. Wienands (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv Univ.*), N. Grion (*INFN Trieste*)
286. Quantum diffusion of muons and muonium [completed], K.M. Crowe (*Univ. of California, Berkeley*), J.H. Brewer, S.R. Kreitzman, M. Senba, D.L. Williams (*Univ. of British Columbia*), R. Keitel (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), J. Bailey (*Yale Univ.*), K. Nagamine (*Univ. of Tokyo*), D. Harshman (*AT&T Laboratories*), D.P. Spencer (*Univ. of Chicago Medical Center*)
288. Muonium reaction rates on surfaces [completed], R. Keitel (*TRIUMF*), J.H. Brewer, D.N. Noakes, M. Senba (*Univ. of British Columbia*), K. Nagamine (*Univ. of Tokyo*), E.J. Ansaldo (*Univ. of Saskatchewan*), D.R. Harshman (*AT&T Laboratories*)
289. Studies of positive muon states in alkali halides and other insulators by advanced  $\mu\text{SR}$  methods [completed], K. Ishida, Y. Kuno, T. Matsuzaki, Y. Morozumi, K. Nagamine, K. Nishiyama, T. Yamazaki (*Univ. of Tokyo*), J.H. Brewer (*Univ. of British Columbia*)
290. Positive muon probing soliton in polyacetylene [completed], K. Ishida, Y. Kuno, T. Matsuzaki, K. Nagamine, H. Shirakawa, T. Yamazaki (*Univ. of Tokyo*), J.H. Brewer (*Univ. of British Columbia*)
291.  $\mu\text{SR}$  studies on spin dynamics in mixed antiferromagnets with competing anisotropies [completed], I. Ito, E. Torikai (*Ochanomizu Univ.*), K. Ishida, Y. Kuno, T. Matsuzaki, K. Nagamine, T. Yamazaki (*Univ. of Tokyo*), J.H. Brewer (*Univ. of British Columbia*)
292.  $\mu^\pm\text{SR}$  of graphite intercalation compounds [active], K. Ishida, T. Kondow, Y. Kuno, T. Matsuzaki, K. Nagamine, T. Yamazaki (*Univ. of Tokyo*), J.H. Brewer (*Univ. of British Columbia*)
294. Spin observables for elastic and inelastic proton scattering from  ${}^{28}\text{Si}$  and  ${}^{208}\text{Pb}$  at 300 MeV [completed], R.L. Auble, F.E. Bertrand, B.L. Burks, C.W. Glover, E.E. Gross, D.J. Horen, R.O. Sayer (*Oak Ridge National Lab*), O. Häusser (*TRIUMF-SFU*), K. Hicks, U. Wienands (*TRIUMF*), A. Moalem (*Ben Gurion Univ.*), J. Lisantti, D.K. McDaniels, J. Tinsley (*Univ. of Oregon*), I. Bergqvist (*Univ. of Lund*), E. Rost, J.R. Shepard (*Univ. of Colorado*)
295. Large angle polarization tests – Test of density-dependent and relativistic theories [completed], V. Penumetcha, A. Scott (*Univ. of Georgia*), R. Abegg\*, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Azuma, L. Buchmann, T.E. Drake, D. Frekers, J.D. King, L. Lee, S.S.M. Wong (*Univ. of Toronto*), M.L. Whiten (*Armstrong College, Georgia*), R. Dymarz, U. Kuehner (*McMaster Univ.*), H.V. von Geramb (*Univ. Hamburg*)
296. Kinetics of gas phase muonium addition reactions [completed], D.M. Garner (*TRIUMF*), D.J. Arseneau, D.G. Fleming, I.D. Reid, M. Senba (*Univ. of British Columbia*)
297. Energetic neutron spectra from  $\mu^-$ -capture in deuteron [completed], T.J. Hallman, Y.K. Lee, L. Madansky, E.K. McIntyre, Jr. (*Johns Hopkins Univ.*), G.R. Mason (*Univ. of Victoria*)
298. Resonant structure in  $\text{Cu}(p, \pi^+)X$ : A possible dibaryon signal [completed], R. Abegg\*, K. Hicks, K.P. Jackson, C.A. Miller, D. Ottewell, P. Walden, S. Yen (*TRIUMF*), G. Gaillard (*Univ. of Alberta*), E.G. Auld, P. Trelle (*Univ. of British Columbia*), R. Schubank (*Univ. of Saskatchewan*). R. Henderson (*TRIUMF-Univ. of Melbourne*)
299. A measurement of the inclusive pion production from  ${}^{16}\text{O}$  and the associated particles in coincidence with the pions [inactive], E.G. Auld (*Univ. of British Columbia*), P. Walden, S. Yen (*TRIUMF*), G. Lolos (*Univ. of Regina*), W. Falk (*Univ. of Manitoba*)

300. Spin transfer  $K_{ss}$  in the reaction  $pp \rightarrow d\pi$  [completed data-taking], R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, G.R. Smith (*TRIUMF*), L. Antonuk, J. Collot, G. Gaillard, G.A. Moss, W.C. Olsen, G. Roy, R. Sawafta, D.M. Sheppard\* (*Univ. of Alberta*), B. Blankleider, J.M. Cameron (*IUCF*)
301. The reaction  $pp\pi^0$  near threshold [completed], F. Entezami, D.F. Measday, S. Stanislaus (*Univ. of British Columbia*), D. Horváth (*Central Research Inst. for Physics, Budapest*)
302. Proton scattering to natural parity states in  $^{90}\text{Zr}$  [completed data-taking], R.E. Azuma, T.E. Drake, H. Fidahic, D. Frekers, J.D. King, L. Lee, S.S.M. Wong (*Univ. of Toronto*), R. Abegg\*, C.A. Miller, S. Yen (*TRIUMF*), R. Schubank (*Univ. of Saskatchewan*)
304. Muonium-antimuonium conversion [completed], A. Olin (*TRIUMF-Univ. of Victoria*), G.A. Beer, A.C. Janissen, G.R. Mason (*Univ. of Victoria*), Z. Gelbart, G.M. Marshall (*TRIUMF*), J.B. Warren\* (*Univ. of British Columbia*), B. Heinrich, K. Myrtle (*Simon Fraser Univ.*), T. Bowen, P.G. Halverson, K.R. Kendall (*Univ. of Arizona*), C.A. Fry (*Univ. of Rochester*), T.M. Huber, A.R. Kunselman (*Univ. of Wyoming*)
306. Pion transfer in gaseous mixtures [completed], K.A. Aniol, M.B. Epstein, D.J. Margaziotis (*California State Univ. LA*), M. Salomon (*TRIUMF*), F. Entezami, D.F. Measday, A.J. Noble, S. Stanislaus, C.J. Virtue (*Univ. of British Columbia*), D. Horváth (*Central Research Inst. for Physics, Budapest*)
307. The effects of large oscillating fields in low frequency double electron muon resonance [completed], S.A. Dodds, T.L. Estle, S.L. Rudaz, Q. Zhu (*Rice Univ.*), J.H. Brewer, S.R. Kreitzman, D. Noakes (*Univ. of British Columbia*), R. Keitel (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), R.H. Heffner (*LAMPF*), D. Harshman (*AT&T Laboratories*), D.P. Spencer (*Univ. of Chicago Medical Center*)
309. Transfer reaction studies with radioactive targets [deferred], E. Hagberg, J.C. Hardy, H. Schmeing (*Atomic Energy of Canada Ltd.*), G. Audi (*Lab René Bernas, Orsay*)
310. Production of a  $^{211}\text{Rn}/^{211}\text{At}$  generator for radiochemical experiments [deferred], M. Adam, J. Grierson, T.J. Ruth (*TRIUMF*), K. Krohn (*Univ. of Washington*)
311. Nuclear reactions of astrophysical interest with accelerated radioactive beams [deferred], R. Azuma, L. Buchmann, J. King (*Univ. of Toronto*), J. D'Auria (*Simon Fraser Univ.*), C. Rolfs (*Univ. Münster*), M. Wiescher (*Univ. Mainz*), M. Arnould (*Univ. Libre de Bruxelles*), T. Ward (*IUCF*), C. Barnes (*California Inst. of Technology*), R. Boyd (*Ohio State Univ.*)
312. Low energy ion scattering using ISOL [deferred], S.R. Morrison, W. Sears (*Simon Fraser Univ.*)
313. Delayed neutron studies at TRIUMF-ISOL [deferred], P.L. Reeder, R.A. Warner (*Pacific Northwest Lab*)
314. Production of radioactive targets for nuclear structure studies [deferred], C. Bourgeois, P. Kilcher, G. Rotbard, B. Roussière, J. Sauvage-Letessier, M. Vergnes (*IPN, Orsay*), H. Dautet (*McGill Univ.*)
315. Development of a laser-based ion source [inactive], D. Audet, F. Buchinger, R. Corriveau, J.E. Crawford, H. Dautet, J.K.P. Lee, S.K. Mark, R.B. Moore, L. Nikkinen, D. Oxorn, G. Savard (*McGill Univ.*), J. D'Auria (*Simon Fraser Univ.*)
316. Collinear laser spectroscopy of radioactive beams [deferred], F. Buchinger and FRL Research Team (*McGill Univ.*)
317. Spectroscopic studies of nuclear properties [deferred], L.R. Kilius, A.E. Litherland (*Univ. of Toronto*), FRL Research Team (*McGill Univ.*), M. Pearson (*Univ. de Montréal*)
318. Installation of an on-line isotope separator at TRIUMF [completed], F. Buchinger, J.E. Crawford, H. Dautet, J.K.P. Lee, S.K. Mark, R.B. Moore, L. Nikkinen, K. Oxorn, V. Raut (*McGill Univ.*), J. D'Auria (*Simon Fraser Univ.*), E. Hagberg, J. Hardy, H. Schmeing (*Chalk River Nuclear Labs*)
319. Analysing powers for the inelastic continuum in  $^{60}\text{Ni}$  and  $^{208}\text{Pb}$  [inactive], K. Lin, J. Lisantti, D.K. McDaniels (*Univ. of Oregon*), I. Bergqvist, A. Brockstedt, B. Jakobsson (*Univ. of Lund*), O. Häusser (*TRIUMF-SFU*), F. Bertrand, B. Burks, E. Gross, C. Glover, D. Horen, R. Sayre (*Oak Ridge National Lab*), L. Swenson (*Oregon State Univ.*)
321. Muonium spin rotations in condensed phases methane [deferred], R.L. Ganti, Y.C. Jean (*Univ. of Missouri-Kansas City*), Y. Miyake, K. Venkateswaran, D.C. Walker (*Univ. of British Columbia*), J.M. Stadlbauer\* (*Hood College*)
322. Measurement of  $\pi^\pm p$  differential cross sections at  $T_\pi = 90$  MeV [completed], J. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, J.L. Ullmann (*Univ. of Colorado*), D.R. Gill, K. Hicks, G. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*)
323. Giant resonance study with 75 MeV  $\pi^\pm$  [completed data taking], D.R. Gill, G.R. Smith, U. Wienands (*TRIUMF*), K.L. Erdman, N. Hessey, D. Mills, M. Rozon (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv Univ.*), T.E. Drake (*Univ. of Toronto*)

324. Polarization-analysing power differences for inelastic proton scattering from  $^{12}\text{C}$  at 400 MeV [completed data-taking], K.H. Hicks, K.P. Jackson, C.A. Miller, G. Smith, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), A. Celler (*Simon Fraser Univ.*), J.R. Shepard (*Univ. of Colorado*), R. Sawafta (*Univ. of Alberta*), A. Moalem (*Ben Gurion Univ.*), T.E. Drake, D. Frekers (*Univ. of Toronto*), R. Schubank (*Univ. of Saskatchewan*), R. Henderson (*TRIUMF-Univ. of Melbourne*), W.P. Alford (*Univ. of Western Ontario*)
325. Ultra-low energy muon production ( $\mu\text{SOL}$ ) [completed], W.S. Crane, D.R. Harshman, A.P. Mills, Jr. (*AT&T Laboratories*), J.B. Warren\* (*Univ. of British Columbia*), J.L. Beveridge, K.R. Kendall, R.F. Kiefl, C.J. Oram (*TRIUMF*), A.S. Rupaal, J.H. Turner\* (*Western Washington Univ.*)
326. Determination of muon-neutrino mass [inactive], C.Y. Kim (*Univ. of Calgary*), D. Garner, R. Keitel (*TRIUMF*), Y.M. Shin (*Univ. of Saskatchewan*)
327. Study of the  $(\pi^+, \pi^+\pi^-)$  reaction on  $^{16}\text{O}$ ,  $^{28}\text{Si}$  and  $^{40}\text{Ca}$  at  $T_\pi = 240$  and 280 MeV [inactive], N. Grion (*INFN Trieste*), R. Rui (*Univ. di Trieste*), N. Hessey, M. Rozon, P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), D. Gill, G. Smith, U. Wienands (*TRIUMF*), A. Altman (*Tel-Aviv Univ.*)
328. Multi-nucleon modes of pion absorption in flight on  $^3\text{He}$  and  $^4\text{He}$  [inactive], J. McAlister, R. Olszewski, M. Rozon, M. Sevier, P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), D.R. Gill, G. Smith (*TRIUMF*), J. Alster, D. Ashery, M. Moinester (*Tel-Aviv Univ.*), N. Grion (*INFN Trieste*), R. Rui (*Univ. di Trieste*), G.J. Lolos, Z. Papandreou (*Univ. of Regina*), K. Aniol (*California State Univ. LA*), R. Tacik (*Univ. Karlsruhe*)
329. The  $^4\text{He}(\pi, \pi')^4\text{He}$  reaction and the EELL effect [completed data-taking], K. Itoh, Y.M. Shin, N. Stevenson, D. Tokaryk (*Univ. of Saskatchewan*), D. Gill, B. Jennings, D. Ottewell, G. Wait (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv Univ.*), T. Drake, D. Frekers (*Univ. of Toronto*), R. Schubank (*Univ. of Saskatchewan*), N. de Takacsy (*McGill Univ.*)
330. Spin observables for inelastic proton scattering from  $^{16}\text{O}$  at 300 MeV [completed], R.L. Auble, F.E. Bertrand, B.L. Burke, C.W. Glover, E.E. Gross, D.J. Horen, R.O. Sayer, (*Oak Ridge National Lab*), O. Häusser (*TRIUMF-SFU*), A. Celler (*Simon Fraser Univ.*), K. Hicks, S. Yen (*TRIUMF*), A. Moalem (*Ben-Gurion Univ.*), R. Sawafta (*Univ. of Alberta*), D. Frekers (*Univ. of Toronto*), R. Henderson (*TRIUMF-Univ. of Melbourne*)
331. Spin transfer in the  $\pi\vec{d} \rightarrow \vec{p}p$  reaction [completed], A. Feltham, G. Jones, R. Olszewski, M. Pavan, M. Sevier, V. Sossi, R.P. Trelle, D. Vetterli, P. Weber (*Univ. of British Columbia*), D.R. Gill, D. Healey, D. Ottewell, G. Smith, G. Wait, P. Walden (*TRIUMF*), G. Lolos, E. Mathie, Z. Papandreou, M. Yeomans (*Univ. of Regina*), R. Rui (*INFN Trieste*), M. Moinester (*Tel-Aviv Univ.*)
332. Measurement of  $D_t/R_t$  in  $n$ - $p$  scattering [completed], J. Birchall, C.A. Davis, N.E. Davison, P.R. Poffenberger, D. Ramsey, W.T.H. van Oers (*Univ. of Manitoba*), G.A. Moss, G. Roy (*Univ. of Alberta*), L.G. Greeniaus (*TRIUMF*)
333. A search for the high frequency parts of the giant resonances [inactive], A. Moalem (*Ben-Gurion Univ.*), O. Häusser (*TRIUMF-SFU*), A. Celler (*Simon Fraser Univ.*), K. Hicks, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), K. Lin, J. Lisantti, D. McDaniels (*Univ. of Oregon*), R. Sawafta (*Univ. of Alberta*), W.P. Alford (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), M. Moinester (*Tel-Aviv Univ.*), I. Bergqvist (*Univ. of Lund*)
335. Energy dependence of isoscalar and isovector  $1^+$  excitations in  $^{28}\text{Si}(\vec{p}, p')$  [completed], O. Häusser (*TRIUMF-SFU*), A. Celler (*Simon Fraser Univ.*), K. Hicks, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Moalem (*Ben-Gurion Univ.*), R. Sawafta (*Univ. of Alberta*), W.P. Alford, R. Helmer (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), C. Günther (*Univ. Bonn*), R. Dymarz (*McMaster Univ.*)
337. Measurement of tensor observables in the  $\pi^+\vec{d}$  elastic scattering reaction [completed], P. Delheij, D.R. Gill, D. Healey, D. Ottewell, G.R. Smith, G. Wait, P. Walden, U. Wienands, S. Yen (*TRIUMF*), A. Altman (*Tel-Aviv Univ.*), M. Haden, G. Jones, F. Tervisidis, R.P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), G. Lolos, E.L. Mathie (*Univ. of Regina*)
338. Proton scattering from  $^{208}\text{Pb}$  and  $^{90}\text{Zr}$  at large momentum transfer [active], R. Azuma, L. Buchmann, T.E. Drake, R. Dymarz, D. Frekers, J.D. King, L. Lee, S. Wong (*Univ. of Toronto*), R. Abegg\*, K.P. Jackson, C.A. Miller (*TRIUMF*), A. Scott (*Univ. of Georgia*), M. Whiten (*Armstrong College*), H. von Geramb (*Univ. Hamburg*)
339. Kinetic isotope effects in the  $\text{Mu} + \text{H}_2$  and  $\text{Mu} + \text{D}_2$  reactions [completed], D. Arseneau, D. Fleming, L.Y. Lee, I.D. Reid, M. Senba (*Univ. of British Columbia*), D. Garner, W.X. Kuang (*TRIUMF*)
340.  $\mu^+$  molecular ions and ion molecule reactions in gases [completed], D. Arseneau, D.G. Fleming, L.Y. Lee, I.D. Reid, M. Senba (*Univ. of British Columbia*), D. Garner, W.X. Kuang (*TRIUMF*)



341. Excited state production in proton-induced nuclear reactions [active], W. Benenson, C. Bloch, E. Kashy, D. Morrissey (*Michigan State Univ.*), D. Boal, J. D'Auria, R.G. Korteling (*Simon Fraser Univ.*), R. Helmer (*Univ. of Western Ontario*)
342. Dynamics of muon-produced soliton in polyacetylene [active], Y. Kuno, T. Matsuzaki, K. Nagamine, K. Nishiyama, T. Yamazaki (*Univ. of Tokyo*), K. Ishida (*Inst. of Phys. and Chem. Research*), H. Shirakawa (*Univ. of Tsukuba*), J. Brewer (*Univ. of British Columbia*), R. Kiefl (*TRIUMF*)
343. Negative pion inelastic scattering from  $^2\text{H}$ ,  $^3\text{He}$  and  $^4\text{He}$  at 100 MeV [deferred], I. Halpern, M. Khandaker, T. Murakami, D. Rosenzweig, D. Storm, D. Tieger (*Univ. of Washington*)
344. Excitation of "stretched" particle-hole states in charge-exchange reactions [active], B. Anderson, R. Madey, R. McCarthy, M. Plumley, J. Watson (*Kent State Univ.*), W. Alford (*Univ. of Western Ontario*), O. Häusser (*TRIUMF-SFU*), K.P. Jackson, C.A. Miller (*TRIUMF*)
345. Muon spin relaxation studies of uranium-based heavy fermions [active], G. Aeppli, D. Abernathy (*AT&T Bell Laboratories*), Y.J. Uemura (*Brookhaven National Lab*), J. Brewer, D. Noakes (*Univ. of British Columbia*), E. Ansaldo (*Univ. of Saskatchewan*), E. Bucher (*Univ. Konstanz*), J. Kossler (*College of William and Mary*)
346. Muon spin rotation and relaxation in heavy fermion cerium compounds [active], Y.J. Uemura (*Brookhaven National Lab*), G. Aeppli, D. Abernathy, B. Batlogg, D. Harshman, J. Remeika (*AT&T Bell Laboratories*), J.H. Brewer, S. Kreitzman, D.R. Noakes, M. Senba (*Univ. of British Columbia*), B. Hitti, J. Kempton, W.J. Kossler (*College of William and Mary*), R. Keitel, R. Kiefl (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), Y. Oonuki, T. Komatsubara (*Tsukuba Univ.*), E. Bucher (*Univ. Konstanz*)
347. Spin dynamics in amorphous rare earth intermetallics [inactive], L. Asch, G.M. Kalvius, F.J. Litterst (*Tech. Univ. Munich*), J.H. Brewer, D.R. Noakes (*Univ. of British Columbia*), B. Boucher (*CEN Saclay*), J. Chappert, A. Yaouanc (*CEN Grenoble*), O. Hartmann, R. Wäppling (*Univ. of Uppsala*), K. Nagamine, K. Nishiyama, T. Yamazaki (*Univ. of Tokyo*), E.J. Ansaldo (*Univ. of Saskatchewan*), R. Keitel (*TRIUMF*)
349. The diamagnetic  $\mu^+$  state in alkali halide and related metal halide crystals [completed], E.J. Ansaldo (*Univ. of Saskatchewan*), J. Brewer, B. Forster\*, S. Kreitzman, G. Luke, D. Noakes, M. Senba, D.L. Williams (*Univ. of British Columbia*), R. Keitel, R. Kiefl (*TRIUMF*), K. Nagamine (*Univ. of Tokyo*), D. Harshman (*AT&T Laboratories*)
350. Study of the energy dependence of the  $^{18}\text{O}(\pi^+, \pi^-)^{17}\text{Ne}$  reaction at the low-energy region [completed data-taking], A. Altman, E. Piasezky (*Tel-Aviv Univ.*), N. Hessey, F.M. Rozon, M. Seviar, R.P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), D.R. Gill, G.R. Smith, U. Wienands (*TRIUMF*), N. Grion, R. Rui (*INFN Trieste*), T. Anderl (*KfA Jülich*), M. Leitch (*Los Alamos National Lab*)
351. Study of the  $(\pi^+, \pi^-)$  DIAS reaction on  $^{34}\text{S}$  and  $^{56}\text{Fe}$  at 50 MeV [active], A. Altman, E. Piasezky (*Tel-Aviv Univ.*), N. Hessey, M. Seviar, F.M. Rozon, R.P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), D.R. Gill, G.R. Smith, U. Wienands (*TRIUMF*), N. Grion, R. Rui (*INFN Trieste*), T. Anderl (*KfA Jülich*), M. Leitch (*Los Alamos National Lab*)
352. Zero degree radiative capture of neutrons [active], G.W.R. Edwards, J. Collot, H. Fielding, G. Gaillard, J. Wesick (*Univ. of Alberta*), R. Abegg\*, G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), J.M. Cameron (*IUCF*), N.E. Davison (*Univ. of Manitoba*)
354. Study of nuclear structure and density dependence of the effective interaction for the  $N = 50$  isotones [active], R.E. Azuma, L. Buchmann, T. Drake, D. Frekers, A. Galino, L. Lee, S. Wong (*Univ. of Toronto*), R. Abegg\*, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Schubank (*Univ. of Saskatchewan*)
355. Exchange effects in  $0^+ \rightarrow 0^-$  inelastic scattering [completed], R.E. Azuma, L. Buchmann, T.E. Drake, D. Frekers, A. Galindo, J.D. King, R. Lee, S.S.M. Wong, X. Zhu (*Univ. of Toronto*), R. Schubank (*Univ. of Saskatchewan*)
356. Y-scaling in inclusive proton scattering from  $^9\text{Be}$  and  $^{12}\text{C}$  at 300 MeV [active], A. Moalem (*Ben-Gurion Univ.*), O. Häusser (*SFU-TRIUMF*), R. Abegg\*, K. Hicks, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Sawafta (*Univ. of Alberta*), R. Henderson (*TRIUMF-Univ. of Melbourne*), W.P. Alford (*Univ. of Western Ontario*), A. Altman (*Tel-Aviv Univ.*), S. Gurvitz (*Weizmann Inst. of Science*), D. Frekers (*Univ. of Toronto*)
357. Measurement of  $B^+$ (GT) for  $^{26}\text{Mg}$  [completed data-taking], W.P. Alford, A. Celler (*Univ. of Western Ontario*), R.L. Helmer, R. Henderson, M. Vetterli, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), A. Krumins (*Univ. of Toronto*), D. Miller (*IUCF*), B. Spicer (*Univ. of Melbourne*), A. Yavin (*Tel Aviv Univ.*)
358. Resolved nuclear hyperfine structure of muonium-substituted free radicals using level crossing spectroscopy [completed], R.F. Kiefl, R. Keitel (*TRIUMF*), J.H. Brewer, S. Kreitzman, G. Luke, D.R. Noakes, M. Senba (*Univ. of British Columbia*), E.J. Ansaldo (*Univ. of Saskatchewan*), A. Ito, Y. Morozumi, K. Nagamine, K. Nishiyama (*Univ. of Tokyo*), P.W. Percival (*Simon Fraser Univ.*), D. Harshman (*AT&T Laboratories*)

359. The spin response of ( $fp$ ) shell nuclei [inactive], C. Glashauser (*Rutgers Univ.*), O. Häusser (*TRIUMF-SFU*), S.K. Nanda (*Univ. of Minnesota*), K.W. Jones (*Los Alamos National Lab*), A. Moalem (*Ben-Gurion Univ.*), M. Vetterli (*Simon Fraser Univ.*), R. Abegg\*, K. Hicks, K.P. Jackson, C.A. Miller (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), J. Lisantti (*Univ. of Oregon*)
360. Polarization transfer in  $\pi d$  elastic scattering [active], K. Itoh, R. Schubank, Y.M. Shin, N. Stevenson (*Univ. of Saskatchewan*), P. Delheij, D. Gill, D. Healey, D. Ottewell, G. Wait (*TRIUMF*), T. Drake, D. Frekers (*Univ. of Toronto*)
361. Muonium in water [completed], J. Bartlett, J.-C. Brodovitch, M. Harston, S.-K. Leung, P.W. Percival (*Simon Fraser Univ.*), K. Newman (*Univ. de Sherbrooke*)
362. High pressure muon spin resonance in liquids [completed], J. Bartlett, J.-C. Brodovitch, M. Harston, S.-K. Leung, P.W. Percival (*Simon Fraser Univ.*), K. Newman (*Univ. de Sherbrooke*)
364. Photon asymmetry measurements in radiative muon capture in heavy nuclei [completed data-taking], T. Goringe, M. Hasinoff, A. Pouladdej, C. Virtue, C. Waltham (*Univ. of British Columbia*), G. Azuelos (*TRIUMF*), B. Robertson (*Queen's Univ.*), D. Horváth (*Central Research Inst. for Physics, Budapest*)
365. Search for tetra-neutrons using the  ${}^4\text{He}(\pi^-, \pi^+){}^4\text{n}$  reaction [completed], D. Armstrong, T. Goringe, M. Hasinoff, C. Waltham, J.B. Warren\* (*Univ. of British Columbia*), G. Azuelos, J.A. Macdonald, T. Numao, J.-M. Poutissou (*TRIUMF*), D. Bryman (*TRIUMF-Univ. of Victoria*), R. Poutissou (*Univ. de Montréal*)
366. Measurement of  $d\sigma/d\Omega$  and  $A_{NO}$  to exclusive states of  ${}^{16}\text{O}(p, \pi^+){}^{17}\text{O}$  between 250 and 450 MeV [active], K. Hicks, M.J. Iqbal, P. Walden, S. Yen (*TRIUMF*), E.G. Auld (*Univ. of British Columbia*), R. Bent (*IUCF*), W.R. Falk (*Univ. of Manitoba*), G. Lolos (*Univ. of Regina*)
367. Resolved nuclear hyperfine structure of anomalous muonium in semiconductors [completed], R.F. Kiefl, R. Keitel (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), J.H. Brewer, S. Kreitzman, G. Luke, D.R. Noakes (*Univ. of British Columbia*), T.L. Estle (*Rice Univ.*), D.P. Spencer (*Univ. of Chicago Medical Center*), T. Matsuzaki, K. Nishiyama (*Univ. of Tokyo*)
368. Charge symmetry breaking in  $n(p, d)\pi^0$  at 477 MeV [inactive], R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), P.W. Green, C. Lapointe, G.A. Moss, G.M. Stinson (*Univ. of Alberta*), C.A. Davis, W.T.H. van Oers (*Univ. of Manitoba*), J.M. Cameron (*IUCF*)
369. Measurement of charge symmetry breaking in  $np$  elastic scattering at 350 MeV [completed data-taking], L.G. Greeniaus, N. Kolb, J. Li, A.K. Opper, J. Soukup, G.M. Stinson (*Univ. of Alberta*), R. Abegg\*, P.P.J. Delheij, P.W. Green, D.C. Healey, R. Helmer, C.D.P. Levy, C.A. Miller, A. Zelenski (*TRIUMF*), A.R. Berdoz, J. Birchall, J.R. Campbell, L. Gann, L. Lee, S.A. Page, W.D. Ramsay, W.T.H. van Oers, J. Zhao (*Univ. of Manitoba*), C.A. Davis (*TRIUMF-Univ. of Manitoba*) E. Korkmaz (*Univ. of Alberta*)
370. On the applicability of the macroscopic DWBA formalism for  ${}^{59}\text{Ni}$  at 200 and 400 MeV [inactive], J. Lisantti, D.K. McDaniels (*Univ. of Oregon*), C. Glover, L.W. Swenson, Y. Xiao (*Oregon State Univ.*), F. Bertrand, B. Burks, D. Horen (*Oak Ridge National Lab*), I. Bergqvist (*Univ. of Lund*), K. Hicks (*TRIUMF*)
371. Muonium in micelles [completed], K. Venkateswaren, D.C. Walker (*Univ. of British Columbia*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*), R. Ganti, Y.C. Jean (*Univ. of Missouri-Kansas City*), Wu Zhenna (*USTC, Hefei*)
372. Single pion production in  $np$  scattering [completed data-taking], A. Amer, A.R. Berdoz, J. Birchall, J.R. Campbell, N.E. Davison, W.R. Falk, S.A. Page, W.D. Ramsay, A.M. Sekulovitch, W.T.H. van Oers (*Univ. of Manitoba*), D.A. Hutcheon, C.A. Miller (*TRIUMF*), D.L. Adams, G.S. Mutchler (*Rice Univ.*), M.G. Bachman, P.J. Riley (*Univ. of Texas, Austin*), C.A. Davis (*Univ. of Manitoba-TRIUMF*), M.B. Epstein, D.J. Margaziotis (*California State Univ., Los Angeles*), P.W. Green, E. Korkmaz (*Univ. of Alberta*), B.W. Mayes, L. Pinsky, Y. Tzamouranis (*Univ. of Houston*)
373. Low energy pion scattering and pionic atom anomaly [inactive], D.R. Gill, G.R. Smith, U. Wienands (*TRIUMF*), A. Olin (*TRIUMF-Univ. of Victoria*), R.M. Rozon, M. Seviar, R.P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv Univ.*), T. Anderl (*KfA Jülich*), N. Grion (*INFN Trieste*), R. Rui (*Univ. di Trieste*)
374. Non-analog DCX, the  ${}^{16}\text{O}(\pi^+, \pi^-){}^{16}\text{Ne}$  reaction [active], D.R. Gill, G.R. Smith, U. Wienands (*TRIUMF*), F.M. Rozon, M. Seviar, R.P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv Univ.*), T. Anderl (*KfA Jülich*), N. Grion (*INFN Trieste*), R. Rui (*Univ. di Trieste*)
375. Few-body physics via the pion deuteron breakup reaction [completed data-taking], G.M. Huber, G.J. Lolos, E.L. Mathie, S.I.H. Naqvi, V. Pafilis, D.M. Yeomans (*Univ. of Regina*), D. Healey, D. Ottewell, G.R. Smith, G. Wait (*TRIUMF*), G. Jones, M. Seviar, R.P. Trelle, P. Weber (*Univ. of British Columbia*), D. Humphrey (*Western Kentucky Univ.*), H. Garcilazo (*Univ. Hannover*)

376.  $S_{\beta^+}$  strength in  $^{90}\text{Zr}(n,p)$  [active], D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), B. Spicer (*Univ. of Melbourne*), R. Henderson (*TRIUMF-Univ. of Melbourne*), M. Moinester, A.I. Yavin (*Tel-Aviv Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), O. Häusser (*TRIUMF-Simon Fraser Univ.*), T.E. Drake, J.D. King (*Univ. of Toronto*), K. Hicks (*Ohio Univ.*)
377. Test of charge symmetry in  $\pi d$  elastic scattering [completed], D. Gill, D.F. Ottewell, G.R. Smith, P.L. Walden (*TRIUMF*), G. Jones, F. Tervisidis, P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*) A. Altman (*Tel-Aviv Univ.*), J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, J.L. Ullmann (*Univ. of Colorado*)
378. Study of  $^{48}\text{Ti}(n,p)$  as a test of lifetime calculations for the double beta decay of  $^{48}\text{Ca}$  [active], W.P. Alford, A. Celler (*Univ. of Western Ontario*), D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), K. Hicks (*Ohio Univ.*), B.A. Brown (*Michigan State Univ.*), C.D. Zafiratos (*Univ. of Colorado*)
379. Investigation of the relation between Gamow-Teller strength and  $(p,n)$  cross sections at small momentum transfer [active], W.P. Alford, A. Celler (*Univ. of Western Ontario*), J. Watson (*Kent State Univ.*), C.D. Zafiratos (*Univ. of Colorado*), D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), K. Hicks (*Ohio Univ.*), B.A. Brown (*Michigan State Univ.*), R. Henderson (*TRIUMF-Univ. of Melbourne*)
381. Measurement of spin observables using the  $(p,p'\gamma)$  reaction [completed], K. Hicks (*Ohio Univ.*), R. Abegg\*, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), A. Celler (*Univ. of Western Ontario*), R. Ristinen, J. Shepard, J. Ullmann (*Univ. of Colorado*), C. Glover, N. Hill (*Oak Ridge National Lab*), G. Igo (*UCLA*), R. Jeppesen, N. King, G. Morgan (*Los Alamos National Lab*), M. Kovash (*Univ. of Kentucky*), R. Henderson (*TRIUMF-Univ. of Melbourne*)
382. Measurements of the spin rotation parameter  $Q$  at 200 MeV as a test of Pauli blocking in elastic proton-nucleus scattering [active], O. Häusser (*TRIUMF-SFU*), M. Ji, K. Lin, M. Vetterli (*Simon Fraser Univ.*), R. Abegg\*, K.P. Jackson, C.A. Miller (*TRIUMF*), R.S. Henderson (*TRIUMF-Univ. of Melbourne*), R. Sawafta (*Univ. of Alberta*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), K. Hicks (*Ohio Univ.*), C. Glover, J. Lisantti (*Oak Ridge National Lab*), D.K. McDaniels (*Univ. of Oregon*), L.W. Swenson (*Oregon State Univ.*)
383. A test of the Gamow-Teller sum rule from measurements of the  $^{54}\text{Fe}(n,p)$  and  $(p,n)$  reactions at 290 MeV [active], O. Häusser (*TRIUMF-SFU*), Ma Ji, K. Lin, M. Vetterli (*Simon Fraser Univ.*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), K. Hicks (*Ohio Univ.*), F. Osterfeld (*KfA Jülich*)
384. Abysmal astrophysics: the  $(n,p)$  reaction on  $^{56}\text{Fe}$  and  $^{58}\text{Ni}$  [completed], D. Frekers, R. Helmer, K.P. Jackson (*TRIUMF*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R.E. Azuma, L. Buchmann, C. Campbell (*Univ. of Toronto*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), B. Spicer (*Univ. of Melbourne*), R. Henderson (*TRIUMF-Univ. of Melbourne*)
385. Muon spin depolarization in Xe up to 5 atm [completed], D. Arseneau, D. Fleming, L.Y. Lee, I. Reid, M. Senba, R.E. Turner (*Univ. of British Columbia*), D. Garner (*TRIUMF*)
386. Electron-muon drag in conductors [completed], K.M. Crowe, A.M. Portis (*Univ. of California, Berkeley*), E.J. Ansaldo (*Univ. of Saskatchewan*), J.H. Brewer, S.R. Kreitzman (*Univ. of British Columbia*), R. Keitel (*TRIUMF*)
387. Measure of Birks factor in TMP [completed], A. Astbury (*TRIUMF-Univ. of Victoria*), M. Fincke-Keeler, R. Keeler, G.R. Mason, L. Robertson (*Univ. of Victoria*), D. Schinzel (*CERN*), A. Gonidec (*LAPP, Annecy*), C. Oram (*TRIUMF*)
388. Muon spin rotation of paramagnetic solution [completed], K. Newman (*Univ. de Sherbrooke*), J. Bartlett, J.-C. Brodovitch, M. Harston, S.-K. Leung, P. Percival (*Simon Fraser Univ.*)
389. Total cross-section measurements [completed], T.E. Drake, A. Galindo-Uribarri, S. Juniper (*Univ. of Toronto*), D. Frekers (*TRIUMF*), R. Schubank (*Univ. of Saskatchewan*)
390. The relativistic  $N$ - $N$  interaction in nuclear matter and quasifree proton scattering [active], R.E. Azuma, C. Chan, T.E. Drake, J.D. King, L. Lee (*Univ. of Toronto*), R. Abegg\*, D. Frekers, D.A. Hutcheon, J. Iqbal, C.A. Miller, S. Yen (*TRIUMF*), C.J. Horowitz (*Indiana Univ.*)
391. Muon spin rotation studies of supported metal catalysts [completed], R.F. Marzke (*Arizona State Univ.*), J.H. Brewer, D. Noakes (*Univ. of British Columbia*), E. Ansaldo (*Univ. of Saskatchewan*), D. Harshman (*AT&T Laboratories*)
392. Spin-flip isovector transition by pion single-charge exchange reaction [active], K. Itoh, R. Schubank, Y. Shin, N. Stevenson (*Univ. of Saskatchewan*), D. Frekers, D. Gill, D. Ottewell, G. Wait (*TRIUMF*), T.E. Drake (*Univ. of Toronto*)

394. Measurement of  $\pi^\pm p$  differential cross sections at  $T_\pi = 20$  to 60 MeV [inactive], J.T. Brack, J.J. Kraushaar, R.A. Loveman, R.J. Peterson, R.A. Ristinen (*Univ. of Colorado*), D.R. Gill, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), R. Olszewski, M. Seviar, R.P. Trelle (*Univ. of British Columbia*), E.L. Mathie (*Univ. of Regina*)
395. Search for a dibaryon in the reaction  $d(\pi^-, \pi^+)X$  [deferred], R. Olszewski, M. Seviar, R.P. Trelle (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), D.R. Gill, G.R. Smith (*TRIUMF*), D. Ashery, E. Piassetzky (*Tel-Aviv Univ.*), N. Grion (*INFN Trieste*), R. Rui (*Univ. di Trieste*), J. Ernst (*Univ. Bonn*), T. Anderl (*KfA Jülich*)
396. Muonium chemical reactivities – Viscosity dependence [completed], R.L. Ganti, Y.C. Jean (*Univ. of Missouri-Kansas City*), K. Venkateswaran, D.C. Walker (*Univ. of British Columbia*)
397. Quasielastic scattering from  $^{12}\text{C}$  and  $^4\text{He}$  [inactive], C. Chan, T.E. Drake (*Univ. of Toronto*), R. Abegg\*, D. Frekers, D.A. Hutcheon, M.J. Iqbal (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), C.J. Horowitz, E. Stephenson (*Indiana Univ.*), K. Hicks (*Ohio Univ.*)
398. MuLRC spectroscopy of free radicals [completed], J.A. Bartlett, J.-C. Brodovitch, S.K. Leung, P.W. Percival, S. Sun-Mack, D. Yu (*Simon Fraser Univ.*), D.M. Garner, R.F. Kiefl (*TRIUMF*), G.M. Luke, K. Venkateswaran (*Univ. of British Columbia*), S.F. Cox (*Rutherford Appleton Lab*)
399. Measurement of  $\pi^\pm d$  elastic scattering cross sections and charge asymmetries at 30, 50 and 65 MeV [completed data-taking], M.D. Kohler, J.J. Kraushaar, R.A. Loveman, R.J. Peterson, R.A. Ristinen (*Univ. of Colorado*), D.R. Gill, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), J.T. Brack, R. Olszewski, M. Seviar, R.P. Trelle (*Univ. of British Columbia*), E.L. Mathie (*Univ. of Regina*)
400. The Lamb shift and hyperfine structure splitting in muonic atoms [completed data-taking], G.W.F. Drake, E.E. Habib, A. Wijngaarden (*Univ. of Windsor*), C.D.P. Levy, P. Schmor (*TRIUMF*), J.A. Cameron (*McMaster Univ.*), R. Schubank (*Univ. of Saskatchewan*)
401. Measure of the neutron efficiency of organic scintillators in the energy range 50–350 MeV [completed data-taking], N. Grion (*INFN Trieste*), N. Colonna, G. d’Erasmus, M. Fiore (*Univ. di Bari*), L. Fiore, G. Guarino, A. Pantaleo, V. Paticchio (*INFN-Bari*), A. Bracco (*Univ. di Milano*), R. Rui (*Univ. di Trieste*)
402. Hyperfine structure of muon and muonium defect centres in magnetically ordered fluorides [inactive], R.F. Kiefl (*TRIUMF*), Y.J. Uemura (*Columbia Univ.*), J.H. Brewer, S. Kreitzman, G.M. Luke, D.R. Noakes (*Univ. of British Columbia*), E.J. Ansaldo (*Univ. of Saskatchewan*), A. Portis (*Univ. of California, Berkeley*)
403. Investigation of pion absorption reactions  $^6\text{Li}$ ,  $^{12}\text{C}(\pi^+, X_1 X_2)A$  [completed data-taking], G.J. Lolos, E.L. Mathie, S.I.H. Naqvi, V. Pafilis, Z. Papandreou (*Univ. of Regina*), G. Jones (*Univ. of British Columbia*), D. Ottewell, P.L. Walden (*TRIUMF*), X. Aslanoglou (*Ohio Univ.*), G. Huber (*Indiana Univ.*)
404. Elastic pion scattering at 50 and 65 MeV [inactive], E. Friedman (*Hebrew Univ., Jerusalem*), D. Gill (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, O. Meirav, C. Ponting (*Univ. of British Columbia*)
405. Nuclear wobble [inactive], R.E. Azuma, T.E. Drake, J. King (*Univ. of Toronto*), R.S. Schubank (*Univ. of Saskatchewan*), R. Abegg\*, D. Frekers, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Celler (*Univ. of Western Ontario*), D. Bohle, A. Richter (*Univ. Darmstadt*), G. Gaul (*Univ. Muenster*)
407. An initial study of the  $^{16}\text{O}(p, n\pi^+)$  reaction at 350 MeV [inactive], K. Hicks (*Ohio Univ.*), D. Frekers, B. Jennings, C.A. Miller, G.R. Smith, P. Walden, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), E.D. Cooper (*McGill Univ.*), J. Shepard, C. Zafaratos (*Univ. of Colorado*), W.P. Alford (*Univ. of Western Ontario*), W.R. Falk (*Univ. of Manitoba*), R. Jeppesen, N. King (*Los Alamos National Lab*)
409. Quasielastic scattering of 1s state nucleons in light nuclei [inactive], R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), P. Kitching (*TRIUMF-Univ. of Alberta*), M. Ahmad, W.J. McDonald, W.C. Olsen (*Univ. of Alberta*), J.W. Watson (*Kent State Univ.*), K. Hicks (*Ohio Univ.*)
411. The spin-isospin response of  $^{48}\text{Ca}$  and  $^9\text{Be}$  from the  $(n, p)$  reaction at 200 MeV [inactive], O. Häusser (*TRIUMF-SFU*), Ma Ji, M.C. Vetterli (*Simon Fraser Univ.*), R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R.G. Jeppesen (*Los Alamos National Lab*), K. Hicks (*Ohio Univ.*), B. Spicer (*Univ. of Melbourne*), R. Henderson (*TRIUMF-Univ. of Melbourne*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), F. Osterfeld (*KfA Jülich*)
412. Role of the  $\Delta$ -isobar in the  $(p, \pi^+)$  and  $(p, \pi^-)$  reactions [completed data-taking], R.D. Bent (*Indiana Univ.*), M.J. Iqbal, P.L. Walden, S. Yen (*TRIUMF*), E.G. Auld, F. Duncan (*Univ. of British Columbia*), G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*Univ. of Regina*), W.R. Falk (*Univ. of Manitoba*), K. Hicks (*Ohio Univ.*), G. Huber (*Indiana Univ.*)

413. Cross sections and analyzing powers for the  ${}^3\text{He}(\vec{p}, \pi^+){}^4\text{He}$  reaction in the energy range from 250 to 515 MeV [completed], J.R. Campbell, W.R. Falk, K.M. Furutani, H. Guan (*Univ. of Manitoba*), P. Walden, S. Yen (*TRIUMF*), E.G. Auld, F.A. Duncan (*Univ. of British Columbia*), G.J. Lolos (*Univ. of Regina*), R.D. Bent (*IUCF*), G.M. Huber (*IUCF-Univ. of Regina*), E. Korkmaz (*Univ. of Alberta*), A. Trudel (*Simon Fraser Univ.*), A. Celler (*Univ. of Western Ontario*)
414. Measurement of the  $H(\pi^-, \pi^+\pi^-)n$  cross section very near threshold [completed], R.R. Johnson (*TRIUMF-UBC*), M. Hanna, J. McAlister, R. Olszewski, C. Ponting, M. Rozon, M. Seviar, V. Sossi, P. Trelle (*Univ. of British Columbia*), D.R. Gill, D.F. Ottewell, G.R. Smith (*TRIUMF*), Z. Wu (*IHEP Acad. Sinica Beijing*), J. Ernst (*Univ. Bonn*), N. Grion (*INFN Trieste*), R. Rui (*Univ. di Trieste*)
415. The  $(p, \Delta^{++})$  reaction on  ${}^6\text{Li}$  and  ${}^{28}\text{Si}$  [deferred], D. Frekers, K.P. Jackson, C.A. Miller S. Yen, P. Walden (*TRIUMF*), E.G. Auld (*Univ. of British Columbia*), K. Hicks (*Ohio Univ.*)
416. Neutron knockout with SASP [inactive], R. Abegg\*, C.A. Miller (*TRIUMF*), P. Kitching (*TRIUMF-Univ. of Alberta*), M. Ahmad, W.J. McDonald (*Univ. of Alberta*), J.W. Watson (*Kent State Univ.*)
417. A survey of the  $(p, \pi^+)$  reaction in the  $\Delta$  resonance region,  $200 \text{ MeV} < T_p < 500 \text{ MeV}$ , using the SASP spectrometer [completed], M.J. Iqbal, P.L. Walden, S. Yen (*TRIUMF*), E.G. Auld, F. Duncan (*Univ. of British Columbia*), W.R. Falk (*Univ. of Manitoba*), G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*Univ. of Regina*), R.D. Bent, G. Huber (*Indiana Univ.*), K. Hicks (*Ohio Univ.*)
418. A measurement of the  $\Delta$ -isobar contribution to pion production from proton-nuclear interactions [deferred], E.G. Auld, F. Duncan (*Univ. of British Columbia*), P. Walden, S. Yen (*TRIUMF*), W.R. Falk (*Univ. of Manitoba*), G.J. Lolos, E.L. Mathie (*Univ. of Regina*), R.D. Bent (*Indiana Univ.*)
419. Nucleon effective polarization in Ca, Zr and Pb [inactive], W.J. McDonald, W.C. Olsen, D.M. Sheppard\* (*Univ. of Alberta*), P. Kitching (*TRIUMF-Univ. of Alberta*), R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*)
420. Kinetic isotope effects in gas phase reactions of muonium with diatomic halogens [completed], D.J. Arseneau, D.G. Fleming, A. Gonzalez, I. Reid, M. Senba (*Univ. of British Columbia*), D.M. Garner (*TRIUMF*)
421. Research and development studies with TISOL [active], J.M. D'Auria, M. Domsbky (*Simon Fraser Univ.*), R. Azuma, L. Buchmann, J. King (*Univ. of Toronto*), J. Crawford, J.K.P. Lee, R.B. Moore (*McGill Univ.*), J.S. Vincent (*TRIUMF*), P. Reeder (*PNL, Batelle*)
422. Calibration of SALAD [completed], J.M. Cameron (*IUCF*), E.B. Cairns, H.W. Fielding, C. Lapointe, W.J. McDonald, G.C. Neilson, W.C. Olsen, D.M. Sheppard\*, J. Soukup, Y. Ye, W. Ziegler (*Univ. of Alberta*), L.G. Greeniaus, D.M. Hutcheon (*TRIUMF*), R. Pywell, D. Skopik (*Saskatchewan Accelerator Lab*)
423. A survey of the  ${}^{40}\text{Ca}(p, \pi^+){}^{41}\text{Ca}$  reaction in the  $\Delta$  resonance region,  $200 \text{ MeV} < T_p < 500 \text{ MeV}$ , using the MRS spectrometer [deferred], M.J. Iqbal, P.L. Walden, S. Yen (*TRIUMF*), E.G. Auld, F. Duncan (*Univ. of British Columbia*), W.R. Falk (*Univ. of Manitoba*), G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*Univ. of Regina*), R.D. Bent, G. Huber (*Indiana Univ.*), K. Hicks (*Ohio Univ.*)
425. An initial study of the  $(p, n\pi^+)$  reaction [completed], K. Hicks (*Ohio Univ.*), D. Frekers, P. Green, B. Jennings, P. Walden, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), W.P. Alford (*Univ. of Western Ontario*), M. Moinester (*Tel-Aviv Univ.*), W.R. Falk (*Univ. of Manitoba*), C. Zafaratos (*Univ. of Colorado*), R. Jeppesen, N. King (*Los Alamos National Lab*), E. Cooper (*McGill Univ.*)
428. Nuclear wobble (part II) [inactive], R.E. Azuma, C. Chan, T.E. Drake, J. King (*Univ. of Toronto*), R. Abegg\*, D. Frekers, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Celler (*Univ. of Western Ontario*), D. Bohle, A. Richter (*Univ. Darmstadt*), G. Gaul (*Univ. Münster*)
430. Spin excitations in  ${}^{208}\text{Pb}$  [completed data-taking], R. Abegg\*, C.A. Miller, S. Yen (*TRIUMF*), R.W. Ferguson, C. Glashausser, A. Green (*Rutgers Univ.*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), R. Henderson (*TRIUMF-Univ. of Melbourne*), K. Hicks (*Ohio Univ.*), F.T. Baker (*Univ. of Georgia*), R. Jeppesen, K.W. Jones (*Los Alamos National Lab*), J. Lisantti (*Oak Ridge National Lab*)
431. Quasielastic spin response for  ${}^{54}\text{Fe}(\vec{p}, \vec{p}')$  at 290 MeV [completed], O. Häusser (*TRIUMF-SFU*), K. Lin, M.C. Vetterli (*Simon Fraser Univ.*), R. Abegg\*, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Henderson (*TRIUMF-Univ. of Melbourne*), K. Hicks (*Ohio Univ.*), R.G. Jeppesen (*Los Alamos National Lab*), J. Lisantti (*Oak Ridge National Lab*), R. Ferguson, G. Glashausser (*Rutgers Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), A. Yavin (*Tel-Aviv Univ.*), J. Watson (*Kent State Univ.*)
432. Polarization transfer in inelastic proton scattering from  ${}^{16}\text{O}$  [completed], O. Häusser (*TRIUMF-SFU*), B. Larson, J. Mildenerger, M. Vetterli (*Simon Fraser Univ.*), R. Abegg\*, D. Frekers, R.L. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Jeppesen (*LANL*), R. Schubank (*Univ. of Saskatchewan*), K. Hicks (*Ohio Univ.*) R. Henderson (*TRIUMF-Univ. of Melbourne*), C. Olmer, E.G. Stephenson (*IUCF*), W.P. Alford, A. Celler (*Univ. of Western Ontario*)

433. Neutron-proton charge exchange amplitudes [completed], R. Abegg\*, P.W. Green, L.G. Greeniaus, K.P. Jackson, C.A. Miller (*TRIUMF*), G.C. Neilson, Y. Ye (*Univ. of Alberta*), W.P. Alford (*Univ. of Western Ontario*), J.M. Cameron (*IUCF*), I. van Heerden (*Univ. of Western Cape, S.A.*), J.W. Watson (*Kent State Univ.*), G.A. Moss (*Science World*)
434. Spin isovector monopole search with the  $^{120}\text{Sn}(n, p)$  reaction [completed], M.A. Moinester, A.I. Yavin (*Tel-Aviv Univ.*), S. Long, B. Spicer (*Univ. of Melbourne*), R. Henderson (*TRIUMF-Univ. of Melbourne*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Pourang, J. Watson (*Kent State Univ.*), R. Jeppesen, N. King (*Los Alamos National Lab*)
435. Measurement of spin flip probabilities with the  $(\bar{p}, \bar{n})$  reaction [inactive], R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), M. Vetterli (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Jeppesen (*Los Alamos National Lab*), W.C. Olsen (*Univ. of Alberta*), R. Henderson (*Univ. of Melbourne-TRIUMF*), J. Watson (*Kent State Univ.*)
436. Isovector spin-dipole giant resonance in (*sd*) shell nuclei [completed data-taking], W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), R. Henderson (*TRIUMF-Univ. of Melbourne*), M. Moinester, A. Yavin (*Tel-Aviv Univ.*), K. Hicks (*Ohio Univ.*), R. Jeppesen (*Los Alamos National Lab*), J. Watson (*Kent State Univ.*)
437. Measurement of absolute cross section for  $^{14}\text{C}(p, n)^{14}\text{N}$  (2.31+3.95 MeV) [completed data-taking], W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Helmer, R. Abegg\*, D. Frekers, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), R. Henderson (*TRIUMF-Univ. of Melbourne*), M. Moinester, A. Yavin (*Tel-Aviv Univ.*), K. Hicks (*Ohio Univ.*), J. Watson (*Kent State Univ.*), R. Jeppesen (*Los Alamos National Lab*)
438.  $^{70,72,74}\text{Ge}(n, p)^{70,72,74}\text{Ga}$ : Shell model blocking effects on Gamow-Teller strength in the *fp* shell [completed data-taking], A. Trudel, M. Vetterli (*Simon Fraser Univ.*), D. Frekers, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), A. Celler (*Univ. of Western Ontario*), R. Jeppesen (*Los Alamos National Lab*), G. Fuller (*Lawrence Livermore National Lab*), K. Hicks (*Ohio Univ.*)
439. The  $(n, p)$ ,  $(p, p')$  and  $(p, n)$  reactions on  $^{14}\text{N}$  [completed data-taking], D. Frekers, R. Helmer, K.P. Jackson (*TRIUMF*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), A.I. Yavin (*Tel-Aviv Univ.*), O. Häusser (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), R.E. Azuma (*Univ. of Toronto*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
440. Muon catalyzed fusion in HD and  $\text{H}_2+\text{D}_2$  gaseous mixtures [completed data-taking], K.A. Aniol, M.B. Epstein, D.J. Margaziotis (*California State Univ. LA*), D.F. Measday, A.J. Noble, S. Stanislaus (*Univ. of British Columbia*), B. Robertson (*Queen's Univ.*), D. Horváth (*Central Research Inst. for Physics, Budapest*), S.E. Jones (*Brigham Young Univ.*), A. Anderson (*Idaho Research Software and Idaho State Univ.*)
441. Amplitude determination of the pion-nucleon elastic scattering reaction. Part I: Analysing power [completed], D.R. Gill, D. Healey, D. Ottewell, G.R. Smith, G.D. Wait (*TRIUMF*), J.T. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen (*Univ. of Colorado*), R.R. Johnson (*TRIUMF-UBC*), G. Jones, R. Olszewski, M.E. Sevier, R.P. Trelle (*Univ. of British Columbia*), E.L. Mathie (*Univ. of Regina*)
442. A dependence of the  $(\pi, 2\pi)$  process through the study of  $^{208}\text{Pb}(\pi^+, \pi^- X)$  with  $X = \pi^+$  and  $p$  reaction at  $T_\pi = 240$  and 280 MeV [completed data-taking], N. Grion, R. Rui (*INFN-Trieste & Univ. di Trieste*), D.R. Gill, G. Sheffer, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, J. McAlister, R. Olszewski, C. Ponting, M. Rozon, M. Sevier, V. Sossi (*Univ. of British Columbia*), E. Oset, M.J. Vicente-Vacas (*Univ. de Valencia*)
443. Study of the  $\pi^+ + d \rightarrow \pi^- + \pi^+ + p + p$  reaction at  $T_\pi = 250, 280$  MeV [inactive], N. Grion, R. Rui (*INFN Trieste & Univ. di Trieste*), D.R. Gill, G. Sheffer, G. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, J. McAlister, R. Olszewski, C. Ponting, F.M. Rozon, M. Sevier, V. Sossi (*Univ. of British Columbia*), E. Oset, M.J. Vicente-Vacas (*Univ. de Valencia*)
444. Double charge exchange reaction studies on helium above the resonance [inactive], R.R. Johnson (*TRIUMF-UBC*), K.L. Erdman, M. Hanna, R. Olszewski, F.M. Rozon, M. Sevier, V. Sossi, P. Trelle (*Univ. of British Columbia*), D.R. Gill, G. Smith (*TRIUMF*), N. Grion (*INFN Trieste*), R. Rui (*Univ. di Trieste*), C.A. Wiedner (*MPI, Heidelberg*), Z. Wu (*UBC/IHEP*)
445. Polarization measurement in the  $^3\text{He}(\pi^+, \bar{p}p)$  reaction [completed data-taking], H. Aclander, A. Altman, D. Ashery, M.A. Moinester, S. May-Tal Beck, S. Ram, D. Trumer (*Tel-Aviv Univ.*), G. Jones, M. Pavan, A. Feltham (*Univ. of British Columbia*), A. Rahav (*Simon Fraser Univ.*), J. Niskanen (*Univ. of Helsinki*)

446. Pion-proton bremsstrahlung [completed data-taking], F. Farzanpay, P. Fuchs, A.W. Stetz, L.W. Swenson (*Oregon State Univ.*), P. Kitching (*Univ. of Alberta-TRIUMF*), D. Mack, W.C. Olsen (*Univ. of Alberta*), D. Ottevell, G.R. Smith, Zhang Nai-sen (*TRIUMF*), N. Stevenson (*Univ. of Saskatchewan*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
447. LCR of Mu-radicals in micelles [completed], M.V. Barnabas, K. Venkateswaran, D.C. Walker (*Univ. of British Columbia*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*), Wu Zhennan (*USTC, Hefei*)
448. Muon spin relaxation experiments on site-diluted random antiferromagnet (MnZn)F<sub>2</sub> [completed], G.M. Luke, Y.J. Uemura (*Columbia Univ.*), R. Keitel, R.F. Kiefl (*TRIUMF*), J.H. Brewer, S.R. Kreitzman, D.R. Noakes (*Univ. of British Columbia*), E.J. Ansaldo (*Univ. of Saskatchewan*), K.M. Crowe, A.M. Portis (*Univ. of California, Berkeley*), V. Jaccarino (*Univ. of California, Santa Barbara*)
449. Nuclear hyperfine parameters of Mu and Mu\* states via radio-frequency resonance [completed data-taking], J.H. Brewer, S. Kreitzman, G. Luke, D.L. Williams (*Univ. of British Columbia*), E. Ansaldo (*Univ. of Saskatchewan*), T. Estle (*Rice Univ.*), R. Kiefl (*TRIUMF*)
450.  $\mu$ SR studies of sub- and supercritical fluids [completed], K.E. Newman (*Univ. de Sherbrooke*), D.J. Arseneau, D.G. Fleming, A.C. Gonzalez, J.R. Kempton, J. Pan, I.D. Reid, M. Senba (*Univ. of British Columbia*), J.C. Brodovitch, P.W. Percival (*Simon Fraser Univ.*)
452. Radiative muon capture on hydrogen [completed data-taking], G. Azuelos (*Montréal-TRIUMF*), R. Henderson, J. Macdonald, J.-M. Poutissou, D.H. Wright (*TRIUMF*), P. Gumplinger, M. Hasinoff, W. Schott (*Univ. of British Columbia*), P. Depommier, B. Doyle, G. Jonkmans, R. Poutissou (*Univ. de Montréal*), D.S. Armstrong, M. Blecher (*Virginia Polytechnic Inst. & SU*), B. Robertson (*Queen's Univ.*), W. Bertl (*PSI*), C-Q. Chen (*IHEP, Beijing*) T. von Egidy (*Tech. Univ. Munich*), S.C. McDonald, M. Munro, G.N. Taylor (*Univ. of Melbourne*), T. Gorringer (*Univ. of Kentucky*), A. Larabee (*Buena Vista College*)
453. Muonic hydrogen in vacuum [completed], J. Beveridge, J.A. Macdonald, G.M. Marshall, M. Senba (*TRIUMF*), G.A. Beer, P.E. Knowles, G.R. Mason, A. Olin, M. Szczodrak (*Univ. of Victoria*), J.H. Brewer, B.M. Forster\*, R. Jacot-Guillarmod, W. Hardy (*Univ. of British Columbia*), J.M. Bailey (*Univ. of Liverpool*), T.M. Huber (*Gustavus Adolphus College*), A.R. Kunselman (*Univ. of Wyoming*)
454. Investigations of hidden processes in muon catalyzed (dt $\mu$ ) fusion with photon measurements [completed data-taking], R. Kadona, Y. Miyake, K. Nagamine, K. Nishiyama, Y. Watanabe (*Univ. of Tokyo*), K. Ishida, T. Matsuzaki (*RIKEN*), Y. Kuno (*Univ. of British Columbia*), S.E. Jones (*Brigham Young Univ.*), H.R. Maltrud (*Los Alamos National Lab*)
455. Search for wake riding electron states induced by negative muons in solids [deferred], Y. Yamazaki (*Tokyo Inst. of Technology*), F. Fujimoto, K. Komaki, T. Matsuzaki, K. Nagamine, K. Nishiyama, A. Otuka (*Univ. of Tokyo*)
456.  $\mu^-$  SR studies on relaxation and chemical reactions of muonic rare gas atoms [deferred], R. Kadono, T. Kondow, K. Kuchitsu, K. Nagamine, T. Nagata, K. Nishiyama, T. Yamazaki (*Univ. of Tokyo*)
457. Studies of chemical effects on atomic negative muon capture in various chemical systems using slow negative muon beam [deferred], M.K. Kubo, K. Nagamine, T. Tominaga, Y. Sakai (*Univ. of Tokyo*)
458. Hyperfine phenomena probed by  $\mu^-$  SR [deferred], R. Kadono, Y. Miyake, K. Nagamine, K. Nishiyama (*Univ. of Tokyo*), M. Motokawa (*Kobe Univ.*)
459. Exchange effects in  $0^+ \rightarrow 0^-$  inelastic scattering III [completed], R.E. Azuma, C. Chan, T.E. Drake, J.D. King, L. Lee, R. Schubank, S.S.M. Wong, X. Zhu (*Univ. of Toronto*), R. Abegg\*, L. Buchmann, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), E. Rost (*Univ. of Colorado*), R. Sawafta (*IUCF*)
460. A measurement of the cross section and analysing power of the  $pn \rightarrow pp(^1S_0)\pi^-$  reaction at TRIUMF energies [completed data-taking], D. Gill, D. Hutcheon, P.L. Walden (*TRIUMF*), D. Ashery, M.A. Moinester, A.I. Yavin (*Tel-Aviv Univ.*), R.R. Johnson (*TRIUMF-UBC*), F. Duncan, R. Olszewski, C. Ponting, M. Seviar, P. Trelle (*Univ. of British Columbia*), B. Mayer (*DPhN/ME Saclay*)
461.  $\mu$ SR studies of dioxygen and ethylene physisorbed on pure silica powder [completed data-taking], R.F. Marzke (*Arizona State Univ.*), D.G. Fleming, (*Univ. of British Columbia*), M. Senba (*TRIUMF-UBC*), J.C. Brodovitch, P.W. Percival (*Simon Fraser Univ.*)
462. Quasi-elastic scattering from  $^{16}\text{O}$ ,  $^{12}\text{C}$  and  $^4\text{He}$  [completed data-taking], C. Chan, T. Drake, L. Lee (*Univ. of Toronto*), R. Abegg\*, D. Frekers, D. Hutcheon, J. Iqbal, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), K. Hicks (*Ohio Univ.*), C. Horowitz (*MIT*)

463. Muon-nuclear-spin double relaxation measurements of itinerant magnets in the critical temperature region [completed data-taking], R. Kadono (*RIKEN*), T. Yamazaki (*INS, Univ. of Tokyo*), J.H. Brewer, K. Chow, S.R. Kreitzman, T.M. Riseman (*Univ. of British Columbia*), J.W. Schneider (*TRIUMF*), C. Niedermayer (*UBC-Univ. Konstanz*)
464. Low frequency excitations in disordered magnets [inactive], S.A. Dodds (*Rice Univ.*), J.H. Brewer (*Univ. of British Columbia*), E.J. Ansaldo (*Univ. of Saskatchewan*), D. Noakes (*Chalk River Nuclear Labs*)
466. Measurement of  $np \rightarrow d\pi^0$  cross sections near threshold [completed], R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), G.W.R. Edwards, W.C. Olsen, Ye Yan-lin (*Univ. of Alberta*), G.A. Moss (*Science World*), I.J. van Heerden (*Univ. of West Cape*)
467. Radiobiology of high-energy neutrons [inactive], G. Lam (*Cancer Control Agency of B.C.*), H. Dougan, J. Vincent (*TRIUMF*), D. Chaplin, R. Durand, L. Skarsgard (*B.C. Cancer Research Centre*)
468. Isovector  $1^+ \rightarrow 0^+$  transitions in the  $A=6$  system [completed data-taking], O. Häusser (*SFU-TRIUMF*), B. Larson, B. Pointon, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson (*TRIUMF*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), B. Spicer (*Univ. of Melbourne*), R. Henderson (*TRIUMF-Univ. of Melbourne*), K. Hicks (*Ohio Univ.*), R. Jeppesen (*Los Alamos National Lab*)
469.  $\mu$ SR study of high-temperature superconductors [completed], J.H. Brewer, A.C. Chaklader, R. Cline, W.N. Hardy, S.R. Kreitzman, G.M. Luke, T. Riseman (*Univ. of British Columbia*), R. Kiefl (*TRIUMF*), G. Aepli, B. Batlogg, D.R. Harshman (*AT&T Bell Labs*), E.J. Ansaldo (*Univ. of Saskatchewan*), S. Dodds (*Rice Univ.*), C.Y. Huang (*Lockheed*), W.J. Kossler (*College of William & Mary*), T. Yamazaki (*Univ. of Tokyo*), N. Nishida (*Tokyo Inst. Technology*), H. Yasuoka (*ISSP, Tokyo*), A.M. Portis (*Univ. of California, Berkeley*), Y.J. Uemura (*Columbia Univ.*), M. Celio (*ETH Zürich*)
470. Stretched states excited in  $(n, p)$  reactions on  $^{14}\text{C}$ ,  $^{26}\text{Mg}$  and  $^{30}\text{Si}$  [completed data-taking], B.D. Anderson, R. Madey, D.M. Manley, J. Watson (*Kent State Univ.*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), A. Trudel (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*)
471. Differential cross sections for  $\pi^\pm p$  elastic scattering at 87 to 143 MeV [completed data-taking], S. Høibråten, M.D. Kohler, J.J. Kraushaar, B.J. Kriss, R.A. Ristinen (*Univ. of Colorado*), P.A. Amaudruz, J.T. Brack, D.F. Ottewell, G.R. Smith (*TRIUMF*), M. Kermani, M. Pavan, D. Vetterli (*Univ. of British Columbia*), E. Gibson (*California State Univ., Sacramento*), J. Jaki, M. Metzler (*Univ. Karlsruhe*)
472. Measurement of  $B^+(\text{GT})$  for  $^{76}\text{Se}$  using the  $(n, p)$  reaction [completed data-taking], R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), W.C. Olsen (*Univ. of Alberta*), R. Henderson (*TRIUMF-Univ. of Melbourne*), R. Jeppesen (*Los Alamos National Lab*)
473. Quasi-elastic scattering of  $1s$  state nucleons in light nuclei [completed data-taking], R. Abegg\*, D. Frekers, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), P. Kitching (*TRIUMF-Univ. of Alberta*), M. Ahmad, W.J. McDonald, Y. Ye (*Univ. of Alberta*), R. Schubank (*Univ. of Saskatchewan*), J.W. Watson (*Kent State Univ.*), K. Hicks (*Ohio Univ.*), N. Chant (*Univ. of Maryland*)
474. Orbital-spin interference from GT-M1 comparisons in  $(sd)$  shell nuclei [completed data-taking], O. Häusser (*TRIUMF-SFU*), R. Henderson (*TRIUMF-Univ. of Melbourne*), R. Helmer, K.P. Jackson (*TRIUMF*), B. Larsen, B. Pointon, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), W.P. Alford (*Univ. of Western Ontario*), K. Hicks (*Ohio Univ.*), R. Jeppesen (*Los Alamos National Lab*), A. Richter (*T.H. Darmstadt*)
475. Quasielastic analyzing powers using the  $(p, n)$  reaction [completed], K. Hicks (*Ohio Univ.*), D. Frekers, R. Helmer, J. Iqbal, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), R. Jeppesen (*Los Alamos National Lab*)
476. Nuclear spin response using the  $(\bar{p}, p'\gamma)$  reaction [completed data-taking], K. Hicks (*Ohio Univ.*), L. Armendariz, M. Kovash, M.A. Pickar (*Univ. of Kentucky*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), R. Henderson (*TRIUMF-Univ. of Melbourne*), N.S.P. King (*Los Alamos National Lab*), N.W. Hill (*Oak Ridge National Lab*), J. Shepard (*Univ. of Colorado*), R. Abegg\*, A. Celler, K.P. Jackson, S. Yen (*TRIUMF*)
477. The electronic structure of muonium in the cuprous halides [completed data-taking], R.F. Kiefl (*TRIUMF-UBC*), S.A. Dodds, T.L. Estle (*Rice Univ.*), E.J. Ansaldo (*Univ. of Saskatchewan*), K. Chow, T. Riseman (*Univ. of British Columbia*), R.C. DuVarney (*Emory Univ.*), R. Kadono (*KEK*), S. Kreitzman, J.W. Schneider, C. Zhang (*TRIUMF*), R.L. Lichti (*Texas Tech. Univ.*), C. Schwab (*Univ. Louis Pasteur*)
478. Proton-induced  $\pi NN$  resonances [completed data-taking], R. Abegg\*, D. Frekers, P.W. Green, D.A. Hutcheon, C.A. Miller, S. Yen (*TRIUMF*), C. Chan (*Univ. of Toronto*), R. Schubank (*Univ. of Saskatchewan*), P. Trelle (*Univ. of Colorado*)



479. Study of relativistic medium effects through  $A_y(\theta)$  measurements for quasielastic scattering in  $^{58}\text{Ni}$  [inactive], D.K. McDaniels, Z. Tang, Z. Xu (*Univ. of Oregon*), X.Y. Chen, F. Farzanpay, L.W. Swenson (*Oregon State Univ.*), K. Hicks (*Ohio Univ.*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), F. Bertrand, D. Horen, J. Lisantti (*Oak Ridge National Lab*)
480. The spectral function of  $p+n$  in  $^6\text{Li}$  from the  $^6\text{Li}(p, p\alpha)pn$  reaction [completed], R.E. Warner (*Oberlin College and Univ. of Notre Dame*), S.E. Darden, J.J. Kolata (*Univ. of Notre Dame*), R. Helmer (*TRIUMF*), C.A. Davis (*Univ. of Manitoba*), P. Schwandt (*Indiana Univ.*), A. Galonsky, L. Heilbronn, D. Krofcheck (*Michigan State Univ.*), F.D. Becchetti (*Univ. of Michigan*), C.F. Perdrisat, V. Punjabi (*College of William and Mary*)
482. Measurements of spin transfer coefficients in  $pd$  elastic scattering [completed data-taking], R. Abegg\*, R. Helmer, D.A. Hutcheon (*TRIUMF-Univ. of Alberta*), O. Häusser, N. Stevenson, S. Yen (*TRIUMF*), N. Kolb, E. Korkmaz, W.C. Olsen (*Univ. of Alberta*), C.A. Davis (*TRIUMF-Univ. of Manitoba*), D. Mack (*CEBAF*), C.A. Gossett (*Univ. of Washington*)
483. An initial look at the  $(p, \pi^+d)$  reaction as a nuclear probe [active], D. Frekers, M.J. Iqbal, P.L. Walden, S. Yen (*TRIUMF*), E.G. Auld, F. Duncan (*Univ. of British Columbia*), R.D. Bent (*Indiana Univ.*), W.R. Falk, K. Furutani (*Univ. of Manitoba*), G.J. Lolos (*Univ. of Regina*), K. Hicks (*Ohio Univ.*)
484. Measurement of the spin dipole resonance with  $^{40}\text{Ca}(n, p)^{40}\text{K}$  at 300 MeV [completed], 92 AR - per Trudel R. Abegg\*, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), J. Mildenerger, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), O. Häusser (*TRIUMF-SFU*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*) R. Jeppesen (*Los Alamos National Lab*)
485.  $^{15}\text{N}(n, p)^{15}\text{C}$ : An investigation of single particle spin dipole transitions [completed], W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), O. Häusser (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), R. Henderson (*TRIUMF-Univ. of Melbourne*), R. Jeppesen (*Los Alamos National Lab*)
486. Spin isovector giant resonances in deformed nuclei [completed data-taking], S.A. Long, K. Raywood, G.G. Shute, B.M. Spicer (*Univ. of Melbourne*), R. Henderson (*TRIUMF-Univ. of Melbourne*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser (*TRIUMF-SFU*), M. Vetterli (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), M.A. Moinester, A.I. Yavin (*Tel-Aviv Univ.*), R. Jeppesen, N. King (*Los Alamos National Lab*)
488.  $(n, p)$  on helium isotopes [completed data-taking], R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), M. Moinester (*Tel-Aviv Univ.*), O. Häusser (*TRIUMF-SFU*), B. Pointon, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), K. Hicks (*Ohio Univ.*), R. Jeppesen (*Los Alamos National Lab*)
489. GT-M1 comparison and isovector spin-dipole strength in  $(sd)$  shell nuclei [completed data-taking], O. Häusser (*TRIUMF-SFU*), J. Mildenerger, B. Pointon, A. Trudel, (*Simon Fraser Univ.*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Abegg\*, K. Ferguson, R. Helmer, R. Henderson, K.P. Jackson, C.A. Miller, M. Vetterli (*TRIUMF*)
490. Calibration of  $\sigma/B(\text{GT})$  at 300 MeV using the  $(p, n)$  reaction on  $^{27}\text{Al}$  and  $^{58}\text{Ni}$  [completed data-taking], B. Larsen, J. Mildenerger, B. Pointon, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), O. Häusser (*TRIUMF-SFU*), R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), A. Celler (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), K. Hicks (*Ohio Univ.*), R. Jeppesen (*Los Alamos National Lab*)
491.  $^{45}\text{Sc}(n, p)^{45}\text{Ca}$  and  $^{45}\text{Sc}(p, n)^{45}\text{Ti}$ : A significant test of model calculations in the  $(fp)$  shell [completed], W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Abegg\*, K. Ferguson, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), S. Long, K. Raywood (*Univ. of Melbourne*), B.A. Brown (*Michigan State Univ.*)
492. Enhancement of the  $S = 1, T = 0$  nuclear response in pion scattering [completed data-taking], O. Häusser (*SFU-TRIUMF*), J. Mildenerger, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, D. Ottewell, S. Yen (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Seviior (*Univ. of British Columbia*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Henderson (*TRIUMF-Univ. of Melbourne*), G.A. Moss (*Univ. of Alberta*), K. Hicks (*Ohio Univ.*), R. Jeppesen (*Los Alamos National Lab*), R. Ristinen (*Univ. of Colorado*)
493.  $\mu\text{SR}$  study of exotic single crystal superconductors [completed], G. Aeppli, B. Batlogg, D.R. Harshman, L. Remeika, L. Scheemeyer (*AT&T Bell Laboratories*), E. Bucher (*AT&T Bell Labs & Univ. Konstanz*), R. Kiefl (*TRIUMF*), E.J. Ansaldò (*Univ. of Saskatchewan*), T. Riseman, D.Ll. Williams (*Univ. of British Columbia*), G.M. Luke (*Columbia Univ.*)
494. Superconductivity and magnetism of heavy-fermion and high- $T_c$  related systems: Muon spin rotation study combined with neutron scattering [completed], G.M. Luke, A. Moodenbaugh, Y.J. Uemura (*Columbia Univ.*),

- J.H. Brewer, S.R. Kreitzman, T. Riseman (*Univ. of British Columbia*), R.F. Kiefl (*TRIUMF*), S.D. Dodds (*Rice Univ.*), M.B. Maple, M. Torikachvili (*Univ. of California, San Diego*), D.C. Johnston (*Iowa State Univ. and Ames Lab*), W.J. Kossler, X.H. Yu (*College of William and Mary*), C.E. Stronach (*Virginia State Univ.*), Y. Hidaka, T. Murakami (*Nihon Telephone and Telegraph*), Y. Oonuki (*Tsukuba Univ.*)
495. Studies of oxide superconductors by negative muons [active], R. Kadono, K. Nagamine, K. Nishiyama, T. Yamazaki, H. Yasuoka (*Univ. of Tokyo*), N. Nishida (*Tokyo Inst. of Technology*), J.H. Brewer (*Univ. of British Columbia*), R. Kiefl (*TRIUMF*)
496. Measurements of the angular distribution of the spin transfer parameter  $D_{LS}$  in  $pp \rightarrow d\pi^+$  [completed data-taking], R. Abegg\*, P.W. Green, L.G. Greeniaus, D.A. Hutcheon (*TRIUMF-Univ. of Alberta*), E. Korkmaz, D. Mack, G.A. Moss, W.C. Olsen, Y. Ye (*Univ. of Alberta*), N.R. Stevenson (*TRIUMF*)
497. Measurement of the flavour-conserving hadronic weak interaction [active], J. Birchall, A.A. Hamian, L. Lee, S.A. Page, W.D. Ramsay, S.D. Reitzner, A.M. Sekulovich, V. Sum, W.T.H. van Oers, R.J. Woo (*Univ. of Manitoba*), D.C. Healey, R. Helmer, R. Laxdal, C.D.P. Levy, P.W. Schmor (*TRIUMF*), P.W. Green, G. Roy, J. Soukup, G.M. Stinson, T. Stocki (*Univ. of Alberta*), J.D. Bowman, R.E. Mischke (*Los Alamos National Lab*) S. Kadantsev, Y. Kuznetsov, N.A. Titov (*INR Moscow*), A.N. Zelenskii (*INR, Moscow-TRIUMF*)
498. Analysing power zero crossing angles in  $np$  elastic scattering below 300 MeV [completed], J. Birchall, C.A. Davis, N.E. Davison, S.A. Page, W.D. Ramsay, W.T.H. van Oers (*Univ. of Manitoba*), L.G. Greeniaus (*TRIUMF*)
500. Formation, relaxation and LCR spectroscopy of muonated radicals in the gas phase [completed data-taking], D.J. Arseneau, D.G. Fleming, J.R. Kempton, M. Senba, K. Venkateswaran (*Univ. of British Columbia*), J.C. Brodovitch, P.W. Percival (*Simon Fraser Univ.*), D.M. Garner (*TRIUMF*), S.F.J. Cox (*Rutherford Appleton Lab*), E. Roduner (*Univ. Zürich*)
501. Study of the  $^{16}\text{O}(\pi^+, \pi^+\pi^-)$  reaction at  $T_{\pi^+} = 240$  MeV [completed data-taking], N. Grion (*INFN-Trieste*), P. Camerini, R. Rui (*Univ. di Trieste*), E. Oset, M. Vicente-Vacas (*Univ. Valencia*), G.R. Smith (*TRIUMF*), M. Hanna, R. Olszewski, M. Rozon, M. Seviar, V. Sossi (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), R.P. Trelle (*Univ. of Colorado*)
502. Measurement of analysing powers in low-energy  $\pi d$  elastic scattering [completed data-taking], R.B. Schubank, Y.M. Shin, N.R. Stevenson (*Univ. of Saskatchewan*), P. Delheij, D.R. Gill, D. Healey, G.R. Smith, G.D. Wait (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, J. McAlister, V. Sossi, P. Weber (*Univ. of British Columbia*), E.L. Mathie (*Univ. of Regina*), R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*)
503. Search for a  $\pi NN$  bound state [inactive], R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*), R.R. Johnson (*TRIUMF-UBC*), D. Frekers, D.R. Gill, D. Ottewell, G.R. Smith (*TRIUMF*), R. Olszewski, M.F. Rozon, M.E. Seviar, P. Weber (*Univ. of British Columbia*), R. Schubank, N.R. Stevenson (*Univ. of Saskatchewan*), E.L. Mathie (*Univ. of Regina*)
504. Analyzing powers for  $\pi^\pm$   $^{13}\text{C}$  scattering at  $T_\pi=100$  MeV, [completed], D.R. Gill, D. Ottewell, G.R. Smith, G.D. Wait (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), J.T. Brack R. Olszewski, M.E. Seviar (*Univ. of British Columbia*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*Univ. of Regina*), R.B. Schubank, N.R. Stevenson (*Univ. of Saskatchewan*), J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*), G.S. Kyle (*New Mexico State Univ.*), D. Dehnhard (*Univ. of Minnesota*)
505. Total absorption cross sections at low energies [completed], E. Friedman, A. Goldring (*Hebrew Univ. of Jerusalem*), R.R. Johnson, O. Meirav, D. Vetterli, P. Weber (*Univ. of British Columbia*), A. Altman (*Soreq NRC*)
506. Low energy  $\pi + d \rightarrow 2p$  analysing powers [inactive], G.M. Huber, E.L. Mathie, S.I.H. Naqvi, D.M. Yeomans (*Univ. of Regina*), D. Healey, D. Ottewell, R. Tacik (*TRIUMF*), M. Pavan (*Univ. of British Columbia*)
508. Study of the  $\pi^+ + d \rightarrow \pi^- + \pi^+ + p + p$  reaction at  $T_{\pi^+} = 270$  MeV [inactive], P. Camerini, R. Rui (*Univ. di Trieste*), N. Grion (*INFN Trieste*), E. Oset, M.J. Vicente-Vacas (*Univ. Valencia*), G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, R. Olszewski, F.M. Rozon, M. Seviar, V. Sossi (*Univ. of British Columbia*), P. Trelle (*Univ. of Colorado*)
510. Cross-section measurements for the production of  $^{186}\text{Re}$  from the spallation of  $^{197}\text{Au}$  with 425–500 MeV protons [inactive], T.J. Ruth (*TRIUMF*), J.M. D’Auria, S. Gardner (*Simon Fraser Univ.*), C. Schell (*Univ. of British Columbia*)
511. Pion transfer in hydrogenous materials [completed data-taking], D. Armstrong, D.F. Measday, S. Stanislaus (*Univ. of British Columbia*), M. Harston (*Univ. of Surrey*), D. Horváth (*Central Research Inst., Budapest*), K. Aniol (*California State Univ., LA*)
512. Analysing powers in the  $^{13}\text{C}(\pi, \pi')$  reaction between 100 and 300 MeV [deferred], D.R. Gill, D. Ottewell, G.R. Smith, G.D. Wait (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), R. Olszewski, M.E. Seviar (*Univ. of*

- British Columbia*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*Univ. of Regina*), R.B. Schubank, N.R. Stevenson (*Univ. of Saskatchewan*), J. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*), G.S. Kyle (*New Mexico State Univ.*), D. Dehnhard (*Univ. of Minnesota*)
513. Angular correlations in the  $^{12}\text{C}(\pi, \pi'\gamma)$  reaction between 100 and 300 MeV [deferred], D.R. Gill, D. Ottewell, G.R. Smith, G.D. Wait (*TRIUMF*), R. Olszewski, M.E. Sevier (*Univ. of British Columbia*), R.R. Johnson (*TRIUMF-UBC*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*Univ. of Regina*), R.B. Schubank, N.R. Stevenson (*Univ. of Saskatchewan*), J. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*)
514. The pion-deuteron breaking reaction with CLASS [deferred], G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*Univ. of Regina*), G.R. Smith (*TRIUMF*)
515. Pion bremsstrahlung with negative pions [deferred], P. Kitching (*TRIUMF-Univ. of Alberta*), F. Farzanpay, P. Fuchs, A.W. Stetz, L.W. Swenson, N. Wen (*Oregon State Univ.*), G.R. Smith (*TRIUMF*), W.C. Olsen (*Univ. of Alberta*), N. Stevenson (*Univ. of Saskatchewan*)
516. Angular distributions and energy dependence for  $d(\pi^{+-}, \pi^{-+})\pi NN$  [deferred], R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*), D. Frekers, D.R. Gill, D. Ottewell, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), R. Olszewski, M.F. Rozon, M.E. Sevier, P. Weber (*Univ. of British Columbia*), E.L. Mathie (*Univ. of Regina*), R. Schubank, N.R. Stevenson (*Univ. of Saskatchewan*), D. Ashery (*Tel-Aviv Univ.*)
517. Cross sections and analysing powers in the  $^{14}\text{N}(\pi, 2p)$  reaction between 100 and 300 MeV [deferred], D.R. Gill, D. Ottewell, G.R. Smith, G.D. Wait (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), R. Olszewski, M.E. Sevier (*Univ. of British Columbia*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*Univ. of Regina*), R.B. Schubank, N.R. Stevenson (*Univ. of Saskatchewan*), J. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*), G. Kyle (*New Mexico State Univ.*), P. Roos (*Univ. of Maryland*)
518. Pion-induced pion production on  $^3\text{He}$  at threshold [deferred], R.A. Ristinen, R.P. Trelle (*Univ. of Colorado*), D. Frekers, D.R. Gill, D. Ottewell, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), R. Olszewski, M.E. Sevier, P. Weber (*Univ. of British Columbia*), R. Rui (*INFN Trieste*), E.L. Mathie (*Univ. of Regina*), R.B. Schubank, N.R. Stevenson (*Univ. of Saskatchewan*)
519. High dose rate effects in advanced radiation-hardened CMOS microelectronics [completed data-taking], F. Sexton, J.R. Schwank, M.R. Shaneyfelt (*Sandia National Laboratories*),
520.  $\mu\text{SR}$  test of mechanisms for high- $T_c$  superconductivity [completed], I. Affleck, J.H. Brewer, J.F. Carolan, A.C.D. Chaklader, R. Cline, W.N. Hardy, J. Kempton, S.R. Kreitzman, T.M. Riseman, G. Roehmer, D.Ll. Williams, B.-X. Yang (*Univ. of British Columbia*), R. Kadono, R. Keitel, R.F. Kiefl (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), J. Greedan (*McMaster Univ.*), M. Ishikawa (*ISSP, Tokyo*), K. Nagamine, K. Nishiyama (*Univ. of Tokyo MSL*), N. Nishida, S. Ohkuma (*Tokyo Inst. of Technology*), T. Yamazaki (*Univ. of Tokyo*), G.M. Luke, Y.J. Uemura (*Columbia Univ*)
521.  $\mu\text{SR}$  studies of  $(\text{LaSr})\text{CuO}_4$ ,  $\text{Ba}(\text{PbBi})\text{O}_3$  and  $(\text{BaK})\text{BiO}_3$  [completed data-taking], G.M. Luke, B. Sternlieb, Y.J. Uemura (*Columbia Univ.*), J.H. Brewer, J.R. Kempton, S.R. Kreitzman, T.M. Riseman, D.Ll. Williams (*Univ. of British Columbia*), R. Kadono, R. Kiefl (*TRIUMF*), W.J. Kossler, X.H. Yu (*College of William & Mary*), C.E. Stronach (*Virginia State Univ.*), S. Uchida (*Univ. of Tokyo*), K. Kumagai (*Hokkaido Univ.*), A.W. Sleight (*Du Pont Exp. Station*)
523. Pion absorption reactions  $^4\text{He}$ ,  $^6,7\text{Li}$ ,  $^9\text{Be}$ ,  $^{12}\text{C}(\pi^\pm, nN)$ ,  $n > 1$  with PALAS [deferred], G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*Univ. of Regina*), M. Comyn, D. Frekers, D. Ottewell (*TRIUMF*), D. Humphrey (*Western Kentucky Univ.*)
524. Muonium reactivity enhancements [completed], G.B. Porter, D.C. Walker, Z. Wu (*Univ. of British Columbia*), M.V. Barnabas (*Argonne National Lab*), K. Venkateswaran (*Hindustan Lever Ltd.*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*)
525. Muonium studies on copolymerization in micelles [completed], D.C. Walker, Z. Wu (*Univ. of British Columbia*), M.V. Barnabas (*UBC-TRIUMF*), G.B. Porter, K. Venkateswaran (*TRIUMF*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*)
526. A study of the formation and de-excitation of excited nuclear matter [inactive], J.M. D'Auria, R.G. Korteling (*Simon Fraser Univ.*), K.P. Jackson (*TRIUMF*), V. Viola (*Indiana Univ.*), K. Kwiatkowski (*IUCF*), S. Kaufmann (*Argonne National Lab*)
527. Slowing-down time of muons in gases [complete], D.J. Arseneau, D.G. Fleming, A.C. Gonzalez, J.R. Kempton, J. Pan, M. Senba (*Univ. of British Columbia*), D.M. Garner (*TRIUMF*)

528. Muonium reactions with O<sub>2</sub>, CO and NO in high pressure moderators [completed], D.J. Arseneau, D.G. Fleming, J. Kempton, J. Pan, M. Senba (*Univ. of British Columbia*), A.C. Gonzalez (*Univ. of Southern California*), D.M. Garner (*TRIUMF*)
529. Kinetic isotope effects in the muonium + hydrogen halides (Hx) gas reactions [completed data-taking], D.J. Arseneau, D.G. Fleming, J. Kempton, J.J. Pan, M. Senba, A. Tempelmann (*Univ. of British Columbia*), A.C. Gonzalez (*Univ. of Southern California*), D.M. Garner (*TRIUMF*)
530.  $\pi^+$ -proton total cross sections at low energies [completed], E. Friedman, A. Goldring (*Hebrew Univ. Jerusalem*), R.R. Johnson, O. Meirav (*Univ. of British Columbia*), B.K. Jennings (*TRIUMF*), G. Wagner (*Univ. Tübingen*), A. Altman (*Soreq NRC*)
531.  $\mu$ SR study in trans-(CH)<sub>x</sub> [completed data-taking], S. Ikehata, K. Nagamine, K. Nishiyama, N. Oda (*Univ. of Tokyo*)
532. Secondary electron emission in  $\mu$ -foil interactions [active], T. Azuma, Y. Miyake, K. Nishiyama, Y. Watanabe, Y. Yamazaki (*Univ. of Tokyo*), K. Nagamine (*Univ. of Tokyo-RIKEN*), T. Matsuzaki (*RIKEN*), K. Kuroki (*Inst. Police Science, Tokyo*)
533. Studies on formation of mesomolecules by introduction of  $\mu^-$  in LiH and LiD [completed data-taking], T. Kondow, Y. Miyake, K. Nagamine, T. Nagata, K. Nishiyama (*Univ. of Tokyo*), K. Ishida, T. Matsuzaki (*RIKEN*)
534. Tissue chemical analysis with muonic x-rays [completed data-taking], Y. Hosoi, Y. Kakuto, K. Sakamoto, Y. Takai (*Tohoku Univ. School of Medicine*), K. Nagamine (*Univ. of Tokyo*)
535. Search for deeply bound pionic states in heavy nuclei via pion transfer ( $n, p$ ) reactions [completed], R.S. Hayano, T. Yamazaki (*Univ. of Tokyo*), H. Toki (*Tokyo Metropolitan Univ.*), H. Sakai (*Osaka Univ.*), O. Häusser (*SFU-TRIUMF*), K.P. Jackson (*TRIUMF*), A. Trudel, M.C. Vetterli (*Simon Fraser Univ.*)
536. The  ${}^6\text{Li}(\mu^-, 2t)\nu_\mu$  reaction [inactive], K. Kletch, T. Langen, C. Rangacharyulu, R.B. Schubank, Y.M. Shin, N.R. Stevenson (*Univ. of Saskatchewan*), C. Kim (*Univ. of Calgary*)
- 537a. Radiative decay of the  $\Delta$  resonance: Cross sections for  $\pi^- p \rightarrow \gamma n$  [completed data-taking], D.F. Measday, A. Noble (*Univ. of British Columbia*), E.C. Booth, D. Delli Carpini, J. Miller (*Boston Univ.*), D. Mack, S. Wood (*CEBAF*), M. Kovash, M. Pickar, M. Wang (*Univ. of Kentucky*), B. Bassalleck, M. Halka (*Univ. of New Mexico*), M. Moinester (*Tel-Aviv Univ.*), R. Jacot-Guillarmod, D. Ottewell (*TRIUMF*), S. Stanislaus (*Los Alamos National Lab*), P. Weber (*CERN*)
- 537b. Radiative decay of the  $\Delta$  resonance: Analyzing powers for  $\pi^- \bar{p} \rightarrow \gamma n$  [completed data-taking], B. Bassalleck, J. Stasko (*Univ. of New Mexico*), E. Booth, M. Chertok, J. Miller (*Boston Univ.*), R. Jacot-Guillarmod, D. Ottewell (*TRIUMF*), M.A. Kovash, M.A. Pickar (*Univ. of Kentucky*), D. Mack (*CEBAF*), D.F. Measday (*Univ. of British Columbia*), M. Moinester (*Tel Aviv*), P. Weber (*CERN*)
538. Measurement of  $\sigma/B_{GT}$  for  ${}^{13}\text{C}$  [completed data-taking], J. Mildenerger, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), O. Häusser (*SFU-TRIUMF*), W.P. Alford, A. Celler, (*Univ. of Western Ontario*), R. Helmer, S. Yen (*TRIUMF*)
539. Diffusion of light interstitials and the effect of conduction electrons [active], R. Kadono, R.F. Kiefl (*TRIUMF*), J.H. Brewer, S.R. Kreitzman, G.M. Luke, T.M. Riseman, D.Ll. Williams (*Univ. of British Columbia*), E.J. Ansaldo (*Univ. of Saskatchewan*), T.L. Estle (*Rice Univ.*), M. Celio (*Univ. Zürich*), R. Wäppling (*Univ. of Uppsala*), J. Kondo (*Electrotechnical Lab*)
540. Spin response of magnetic dipole transitions in  ${}^{158}\text{Gd}$  [completed data-taking], R. Abegg\*, D. Frekers, R. Helmer, C.A. Miller, K.P. Jackson, S. Yen (*TRIUMF*), R. Azuma, C. Chan, T. Drake, J. King (*Univ. of Toronto*), R.B. Schubank (*Univ. of Saskatchewan*), A. Celler (*Univ. of Western Ontario*), M. Vetterli (*Simon Fraser Univ.*), R. Richter, H.J. Stein (*Univ. Darmstadt*)
541. Spin-momentum correlations of nucleons in polarized  ${}^3\text{He}$  [completed data-taking], O. Häusser (*SFU-TRIUMF*), P. Delheij, K.P. Jackson, C.A. Miller (*TRIUMF*), R. Woloshyn (*TRIUMF-SFU*), J. Mildenerger, M. Vetterli (*Simon Fraser Univ.*), R. Henderson (*Univ. of Melbourne-TRIUMF*), T. Chupp (*Harvard Univ.*)
542. Spin-observables from  ${}^{28}\text{Si}(p, p'\gamma)$  [completed], K. Hicks (*Ohio Univ.*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), O. Häusser (*SFU-TRIUMF*), C.A. Miller, S. Yen (*TRIUMF*), A. Celler (*Univ. of Western Ontario*), R. Jeppesen, N.S.P. King, G. Morgan (*Los Alamos National Lab*), N. Hill (*Oak Ridge National Lab*), M. Kovash (*Univ. of Kentucky*), R. Henderson (*Univ. of Melbourne-TRIUMF*), J. Shepard (*Univ. of Colorado*)
544. A search for an excited pion-bound state of the nucleon via  $p(p, n)X^{++}$  [completed data-taking], R. Abegg\*, D. Frekers, C.A. Miller, S. Yen (*TRIUMF*), J. Alster, D. Ashery, E. Piasetzky, A.J. Yavin (*Tel-Aviv Univ.*), R. Henderson (*Univ. of Melbourne-TRIUMF*)

545. A study of quasielastic charge exchange [deferred], F.T. Baker (*Univ. of Georgia*), K. Hicks (*Ohio Univ.*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), A. Celler (*Univ. of Western Ontario*), D. Beatty, R. Ferguson, C. Glashausser, A. Green (*Rutgers Univ.*)
546. Muonium-substituted free radicals [complete], B. Addison-Jones, J.C. Brodovitch, F. Ji, P.W. Percival (*Simon Fraser Univ.*), D.M. Bartels (*Argonne National Lab*)
547.  $\mu^+$ SR in exotic single-crystal superconductors [completed data-taking], G. Aeppli, B. Batlogg, D. Bishop, C. Broholm, R.J. Cava, G.P. Espinosa, A.T. Fiory, D.R. Harshman, M. Inui, R.N. Kleiman, L.F. Schneemeyer (*AT&T Bell Labs*), E. Bücher (*AT&T Bell Labs and Univ. Konstanz*), D.Ll. Williams (*Univ. of British Columbia*), E.J. Ansaldo (*Univ. of Saskatchewan*), R.H. Heffner (*Los Alamos National Lab*), D.B. Mitzi (*Stanford Univ.*)
548.  $\mu$ SR (Condensed matter physics) [completed data-taking], S. Dodds, T.L. Estle (*Rice Univ.*), R. Kadono, R.F. Kiefl (*TRIUMF*), J.H. Brewer, S.R. Kreitzman (*Univ. of British Columbia*), E.J. Ansaldo (*Univ. of Saskatchewan*), M. Celio (*Univ. Zürich*), R.C. DuVarney (*Emory Univ.*), C. Schwab (*CRN, Strasbourg*)
549. Measurement of Gamow-Teller strength in the  $^{100}\text{Ru}(n, p)^{100}\text{Tc}$  reaction [inactive], D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*Simon Fraser Univ.*), W.P. Alford, A. Celler, (*Univ. of Western Ontario*), W.C. Olsen (*Univ. of Alberta*), J. Engel (*Caltech*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
550. Quasi-free  $^{16}\text{O}(\pi^+, \gamma p)^{15}\text{O}$  and non-quasi-free  $^{16}\text{O}(\pi^-, \gamma p)^{15}\text{C}$  at 90, 125 and 160 MeV [completed data-taking], K. Choi, N. Kolb, E. Korkmaz, D.J. Mack, W.C. Olsen (*Univ. of Alberta*), J. Miller (*Boston Univ.*), F. Adimi, P. Roos (*Univ. of Maryland*), F. Farzanpay, P. Fuchs, A. Stetz, W. Swenson, J. Zhao, (*Oregon State Univ.*), D.A. Hutcheon, C.A. Miller, D. Ottewell (*TRIUMF*)
552.  $pp \rightarrow d\pi^+$  analyzing powers near threshold [completed], R. Abegg\*, D.A. Hutcheon, C.A. Miller (*TRIUMF*), L.G. Greeniaus, E. Korkmaz, D. Mack, W.C. Olsen, N.L. Rodning (*Univ. of Alberta*)
553. Ground state correlations and GT strength in  $^{16}\text{O}$  [completed], K. Hicks, J. Rapaport (*Ohio Univ.*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), J. Mildenerger, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), A. Celler (*Univ. of Western Ontario*), R. Jeppesen (*Los Alamos National Lab*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
554.  $\pi NN$  resonances induced by proton nucleus scattering [inactive], R. Abegg\*, D. Frekers, R. Helmer, J. Iqbal, K.P. Jackson, B. Jennings, C.A. Miller, S. Yen (*TRIUMF*), R.E. Azuma, C. Chan (*Univ. of Toronto*), R. Schubank (*Univ. of Saskatchewan*), M. Vetterli (*Simon Fraser Univ.*), G. Lolos (*Univ. of Regina*), P. Green (*Univ. of Alberta*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
555. Pion absorption reactions  $^{12}\text{C}(\pi^-, pp)X$  and  $^{12}\text{C}(\pi^+, ppp)X$  [inactive], G.J. Lolos, E.L. Mathie, S.I.H. Naqvi, M. Yeomans (*Univ. of Regina*), D. Humphrey, G. Vourvopoulos (*Western Kentucky Univ.*), M. Comyn, D. Frekers, D. Ottewell (*TRIUMF*), G. Jones, P. Weber (*Univ. of British Columbia*), G.M. Huber (*Indiana Univ.*), X. Aslanoglou (*Ohio Univ.*)
556. The reaction  $\pi^+ + ^4\text{He} \rightarrow \pi^+ + \pi^- + pppn$  [completed data-taking], P. Amaudruz, J. Brack, R.R. Johnson, O. Meirav, D. Ottewell, F.M. Rozon, M. Sevier, G. Sheffer, G. Smith, V. Sossi, D. Vetterli, P. Weber (*Univ. of British Columbia*), P. Camerini, R. Rui (*Univ. di Trieste*), N. Grion (*Univ. di Trieste-INFN*), N.R. Stevenson (*Univ. of Saskatchewan*), M.J. Vicente-Vacas (*Univ. of Valencia*)
557. Elastic scattering of 100 MeV  $\pi^+$  from a polarized  $^3\text{He}$  target [completed data-taking], O. Häusser (*SFU-TRIUMF*), E.J. Brash, C. Chan, B. Larson, A. Rahav, S. Ram, A. Trudel (*Simon Fraser Univ.*), M. Arbel, P. Delheij, R. Henderson, D.F. Ottewell, A. Mellinger, A. Sadeh, B. Schneiderbauer, M. Vetterli (*TRIUMF*), D. Thiessen (*Univ. of British Columbia*), D.M. Whittal (*NAC South Africa*)
558. Measurement of pion scattering and reactions with polarized  $^3\text{H}$  and  $^3\text{He}$  [deferred], P. Delheij, D.R. Gill, P. Levy, C.A. Miller, D.F. Ottewell, P. Schmor, G.R. Smith, G.D. Wait (*TRIUMF*), R.B. Schubank, Y.M. Shin, N.R. Stevenson (*Univ. of Saskatchewan*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, V. Sossi, P. Weber (*Univ. of British Columbia*), O. Häusser (*SFU-TRIUMF*), M. Law, M. Vetterli (*Simon Fraser Univ.*), N. Grion, R. Rui (*INFN Trieste*), E.L. Mathie, M. Yeomans (*Univ. of Regina*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
559. Coulomb effects in positive and negative pion elastic scattering from polarized deuterons [deferred], P. Delheij, D.R. Gill, D. Healey, D.F. Ottewell, G.R. Smith, G.D. Wait (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, O. Meirav, V. Sossi, D. Vetterli, P. Weber (*Univ. of British Columbia*), R.B. Schubank, Y.M. Shin, N.R. Stevenson (*Univ. of Saskatchewan*), E.L. Mathie (*Univ. of Regina*), N. Grion, R. Rui (*INFN Trieste*), E.T. Boschitz, R. Tacik (*Univ. of Karlsruhe*)

560. Low energy  $\pi^+p$  analyzing powers with CHAOS [active], J. Clark, M.E. Sevier (*Univ. of Melbourne*), G. Hofman, M. Kermani, P. Tagliente (*Univ. of British Columbia*), P. Amaudruz, P. Delheij, L. Felawka, R. Meier, D.F. Ottewell, K. Raywood, G.R. Smith (*TRIUMF*), F. Bonutti, P. Camerini, R. Rui (*Univ. Trieste*), N. Grion (*INFN, Trieste*), E.L. Mathie, R. Tacik, M. Yeomans (*Univ. of Regina*), J. Brack, R.A. Ristinen (*Univ. of Colorado*), E. Gibson (*California State Univ., Sacramento*), H. Staudenmeier (*Univ. of Karlsruhe*)
561. Threshold measurements of  $H(\pi^-, \pi^+\pi^-)n$  and  $H(\pi^+, \pi^+\pi^+)n$  [completed data-taking], J. Clark, M.E. Sevier (*Univ. of Melbourne*), G. Hofman, M. Kermani, P. Tagliente (*Univ. of British Columbia*), P. Amaudruz, P. Delheij, L. Felawka, R. Meier, D.F. Ottewell, K. Raywood, G.R. Smith (*TRIUMF*), F. Bonutti, P. Camerini, R. Rui (*Univ. Trieste*), N. Grion (*INFN, Trieste*), E.L. Mathie, R. Tacik, M. Yeomans (*Univ. of Regina*), J. Brack, R.A. Ristinen (*Univ. of Colorado*), E. Gibson (*California State Univ., Sacramento*), H. Staudenmeier (*Univ. of Karlsruhe*)
562. Spin isovector giant resonances in  $^{181}\text{Ta}$  [completed data taking], S.A. Long, G.G. Shute, B.M. Spicer (*Univ. of Melbourne*), R.S. Henderson (*Univ. of Melbourne-TRIUMF*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*)
563. Search for the  $6^-;1$  stretched state of the mass-20 systems [completed data-taking], M. Munro, G.G. Shute, B.M. Spicer (*Univ. of Melbourne*), R.S. Henderson (*Univ. of Melbourne-TRIUMF*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), J.W. Watson (*Kent State Univ.*)
564. Differential cross sections and analysing powers for the  $^4\text{He}(\vec{p}, \pi^+)^5\text{He}$  reaction in the region of the  $\Delta(1232)$  resonance [completed], J. Campbell, W.R. Falk, K.M. Furutani, H. Guan (*Univ. of Manitoba*), P. Walden, S. Yen (*TRIUMF*), E.G. Auld, F.A. Duncan (*Univ. of British Columbia*), G.J. Lolos (*Univ. of Regina*), R.D. Bent (*IUCF*), G.M. Huber (*IUCF-Univ. of Regina*), E. Korkmaz (*Univ. of Alberta*), A. Trudel (*Simon Fraser Univ.*), A. Celler (*Univ. of Western Ontario*)
565. Longitudinal spin correlation parameter ( $A_{\ell\ell}$ ) in  $np$  elastic scattering at TRIUMF energies [pending], A.R. Berdoz, J. Birchall, J.R. Campbell, N.E. Davison, G. Liping, S.A. Page, W.D. Ramsay, W.T.H. van Oers (*Univ. of Manitoba*), C.A. Davis (*TRIUMF-Univ. of Manitoba*), R. Abegg\*, C.A. Miller (*TRIUMF*), P.W. Green, E. Korkmaz, A. Opper (*Univ. of Alberta*), L.G. Greeniaus (*TRIUMF-Univ. of Alberta*)
566. Elastic proton scattering from polarized  $^3\text{He}$  [completed data-taking], O. Häusser, (*SFU-TRIUMF*), P. Delheij, K. Ferguson, K.P. Jackson, C.D.P. Levy, C.A. Miller, B. Morrissette, M. Vetterli, R.M. Woloshyn (*TRIUMF*), R. Henderson (*TRIUMF-Melbourne*), J. Mildenerger, A. Rahav (*Simon Fraser Univ.*), W.P. Alford (*Univ. of Western Ontario*), T.E. Chupp (*Harvard Univ.*)
567. Measurement of the lifetimes of isomeric states during atomic cascade of negative pions in liquid He and Ne [completed data-taking], R.S. Hayano, M. Iwasaki, S. Nakamura, H. Oota (*Univ. of Tokyo*), T. Nagae, Y. Watanabe, T. Yamazaki (*INS, Univ. of Tokyo*), R. Kadono, Y. Kuno, T. Numao (*TRIUMF*), H. Tada (*Univ. Tokyo, Komaba*)
568. The  $\pi p \rightarrow \pi\pi N$  reaction at  $E = 200\text{--}300$  MeV [completed data-taking], P. Camerini, N. Grion, R. Rui (*INFN, Trieste*), I. Iqbal, R.R. Johnson, O. Meirav, M. Sevier, V. Sossi, D. Vetterli, P. Weber (*Univ. of British Columbia*), G. Smith (*TRIUMF*), M. Rozon (*Carnegie-Mellon Univ.*), M. Vicente (*Univ. Valencia*)
569. Fast outgoing protons and deuterons from muon capture on  $^3\text{He}$  nuclei [completed], W.J. Cummings, G.E. Dodge, S.S. Hanna, B.H. King, S.E. Kuhn (*Stanford Univ.*), Y.M. Shin (*Univ. of Saskatchewan*), K-S. Chung, J-M. Lee (*Univ. of Yonsei, Seoul*), R.B. Schubank (*Univ. of British Columbia*), G.R. Mason (*Univ. of Victoria*), R. Helmer, N.R. Stevenson, U. Wienands (*TRIUMF*), Y.K. Lee (*Johns Hopkins Univ.*), D.P. Rosenzweig (*Univ. of Washington*), B.E. King (*Simon Fraser Univ.*)
570. Gamma-neutrino angular correlation in muon capture on  $^{28}\text{SDi}$  [completed], D.S. Armstrong (*College of William and Mary*), E. Gete, D.F. Measday, B. Mofta (*Univ. of British Columbia*), J. Bauer, T.P. Gorringer, B. Johnson, B. Siebels (*Univ. of Kentucky*), S. Stanislaus (*Valparaiso Univ.*)
571. Longitudinal  $\mu^-$  spin relaxation measurement on high  $T_c$  superconductors [active], H. Kojima, J. Tanaka, E. Torikai (*Yamanashi Univ.*), K. Nagamine, K. Nishiyama, T. Yamazaki (*Univ. of Tokyo*), H. Kitazawa (*RIKEN*)
572.  $\mu^+$ SR in single-crystal organic superconductors [active], S.V. Chichester, A.T. Fiory, R.C. Haddon, D.R. Harshman, M.L. Kaplan, L.W. Rupp, Jr. (*AT&T Bell Labs*), R.N. Kleiman (*AT&T Bell Labs-Cornell Univ.*), D.B. Mitzi (*Stanford Univ.*), T. Pfiz (*Max Planck Inst.*), D.Ll. Williams (*Univ. of British Columbia*)
573. Temperature dependence of the spin-exchange cross sections between muonium and cesium atoms [active], D.J. Arseneau, D.G. Fleming, A.C. Gonzalez, J.R. Kempton, J. Pan, M. Senba, A. Tempelmann (*Univ. of British Columbia*)

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574. Muonium radical yields [completed], G.B. Porter, D.C. Walker, Z. Wu (*Univ. of British Columbia*), M.V. Barnabas (*Argonne National Lab*), K. Venkateswaran (*Hindustan Lever Ltd.*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*)
575. Ultra-slow  $\mu^-$  production via muon catalyzed fusion [completed data-taking], M. Iwasaki, N. Kawamura, K. Nagamine, S. Sakamoto, K. Shimomura (*Univ. of Tokyo*), K. Ishida, P. Strasser (*RIKEN*), E. Torikai (*Yamanashi Univ.*), G.M. Marshall (*TRIUMF*)
576. Spin-dependent structure functions of the proton and the neutron [test], P. Delheij, C.A. Miller, M. Vetterli, R. Woloshyn (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), C. Choi, L.G. Greeniaus, P. Kitching, N.L. Rodning (*Univ. of Alberta*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
578. Negative pion bremsstrahlung [deferred], F. Farzanpay, P. Fuchs, A.W. Stetz, L.W. Swenson, J. Zhao (*Oregon State Univ.*), P. Kitching (*TRIUMF-Univ. of Alberta*), K. Choi, D. Mack, W.C. Olsen (*Univ. of Alberta*), N. Stevenson (*Univ. of Saskatchewan*)
579. Kinetic isotope effects and tunneling contributions to rate constants for hydrogen atom transfer reactions:  $\text{Mu}+\text{CH}_4$  and  $\text{Mu}+\text{CD}_4$  [deferred], D.J. Arseneau, D.G. Fleming, A.C. Gonzalez, K.D. Hensel, J.R. Kempton, J.J. Pan, M. Senba, A. Tempelmann (*Univ. of British Columbia*), D.M. Garner (*BC Cancer Foundation*)
580. Interaction of muons with incommensurate spin density waves in chromium and Cr alloys [completed data-taking], E. Fawcett (*Univ. of Toronto*), J.H. Brewer (*Univ. of British Columbia*), R.F. Kiefl (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), D.R. Noakes (*Univ. of Alberta*)
581.  $\mu\text{SR}$  studies in organic superconductors [active], L.P. Le, G.M. Luke, B.J. Sternlieb, Y.J. Uemura (*Columbia Univ.*), J.H. Brewer, S.R. Kreitzman, T.M. Riseman (*Univ. of British Columbia*), R.F. Kiefl (*TRIUMF*), G. Saito, H. Yamochi (*ISSP-Univ. of Tokyo*)
582.  $\mu\text{SR}$  study of the vortex lattice in the mixed state [completed data-taking], E.J. Ansaldo (*Univ. of Saskatchewan*), J.H. Brewer (*Univ. of British Columbia*), D.R. Noakes (*Virginia State Univ.*), Ch. Niedermayer (*Univ. Konstanz*), A. Mawdsley, J. Tallon (*DSIR, New Zealand*), D.C. Johnson (*Ames Univ.*)
583.  $\mu\text{SR}$  study of magnetic ordering in oxides [completed data-taking], E.J. Ansaldo (*Univ. of Saskatchewan*), J.H. Brewer, T.M. Riseman (*Univ. of British Columbia*), R.F. Kiefl, J.W. Schneider (*TRIUMF*), D.R. Noakes, C. Stronach (*Virginia State Univ.*), Ch. Niedermayer (*Univ. Konstanz*), A. Fuertes, B. Martinez, X. Obradors (*Univ. of Barcelona*), J.B. Torrance (*IBM*)
584. Muonium in silicon carbide [inactive], R.F. Kiefl, J.W. Schneider (*TRIUMF*), S.A. Dodds, T.L. Estle (*Rice Univ.*), S.R. Kreitzman (*Univ. of British Columbia*), W.J. Choyke (*Univ. of Pittsburgh*), R.C. DuVarney (*Emory Univ.*), R. Lichti (*Texas Tech. Univ.*)
585. Muonium spectroscopy of the silicon suboxides a-SiOx [completed data-taking], S.F.J. Cox (*Rutherford Appleton Lab*), E.A. Davis, A. Singh (*Leicester Univ.*), S.R. Kreitzman (*TRIUMF*), T.L. Estle, B. Hitti (*Rice Univ.*), D. Lamp, R.L. Lichti (*Texas Tech. Univ.*), R. Duvarney (*Emory Univ.*), D.W. Cooke, M. Paciotti (*LAMPF*), A.C. Wright (*Univ. of Reading*)
586. Muonium-substituted organic free radicals on surfaces [completed data-taking], E. Roduner, M. Schwager (*Univ. Zürich*), I. Reid (*PSI*), J.C. Brodovitch, P. Percival, S.K. Leung, S. Sun-Mack, S. Wlodek (*Simon Fraser Univ.*), D.G. Fleming, A. Gonzalez, K. Hensel, J. Kempton, J. Pan, M. Senba, A. Templemann (*Univ. of British Columbia*), R. Marzke (*Arizona State Univ.*)
587. Study of first forbidden beta transitions using beta-delayed neutron emission [completed data-taking], J. D'Auria, M. Dombisky (*Simon Fraser Univ.*), W. Liu (*SFU-Univ. of Alberta-Univ. of Toronto*), L. Buchmann, K.P. Jackson, J. Vincent (*TRIUMF*), G. Roy (*Univ. of Alberta*), I. Towner (*Chalk River Nuclear Labs*), P. Reeder (*Pacific Northwest Lab*)
588. Muonated thyl and alkyl free radicals in solution [inactive], M.V. Barnabas (*Argonne National Lab*), G.B. Porter, D.C. Walker, Z. Wu (*Univ. of British Columbia*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*), K. Venkateswaran (*Hindustan Lever Ltd.*)
589. The  $\beta\alpha$  decay of  $^{16}\text{N}$ : Parity-forbidden decay and astrophysical application [completed data-taking], L. Buchmann, K.P. Jackson, J. Vincent (*TRIUMF*), J. D'Auria, M. Dombisky, W. Liu (*Simon Fraser Univ.*), R.E. Azuma, J.D. King, S.S. Wong (*Univ. of Toronto*), C.A. Barnes, B. Fillipone, T.R. Wang (*Caltech*)
590. Distribution of  $6^-$  strength in the mass-32 nuclides via the  $^{32}\text{S}(n,p)$  reaction [completed data-taking], S. Koutsoliotas, S.A. Long, M. Munro, B.M. Spicer, G.N. Taylor (*Univ. of Melbourne*), R.S. Henderson (*Univ. of Melbourne-TRIUMF*), K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), A.D. Bacher (*Indiana University*)

591. The role of 3NA in  $^{12}\text{C}(\pi^+, ppp)X$  and  $^{12}\text{C}(\pi^\pm, ppn)X$  reactions [completed data-taking], L. Alexa, P. Barghava, G. Huber, G.J. Lolos, E.L. Mathie, S.I.H. Naqvi, Z. Papandreou, R. Tacik, D. Watts, M. Yoemans (*Univ. of Regina*), M. Comyn, D. Ottewell (*TRIUMF*), G. Jones, P. Weber (*Univ. of British Columbia*), T. Bauer (*Univ. of Utrecht*)
592. Radiative muon capture on  $^3\text{He}$  [completed data-taking], C. Chen, P. Gumplinger, J.A. Macdonald, J.-M. Poutissou, R. Poutissou, D.H. Wright (*TRIUMF*), P. Depommier (*Univ. de Montréal*), P. Bergbusch, M.D. Hasinoff, E. Saettler, D. Sample (*Univ. of British Columbia*), D.S. Armstrong (*College of William and Mary*), M. Blecher, C. Sigler (*Virginia Polytechnic Inst. & State Univ.*), B. Doyle, T.P. Gorringer (*Univ. of Kentucky*)
593. Momentum distributions of backward-production protons in proton-nucleus interactions [active], S. Burzynski, A.J. Trudel (*TRIUMF-SFU*), A. Celler (*TRIUMF-Univ. of Western Ontario*), K.P. Jackson, L. Lee, S. Yen (*TRIUMF*), R. Korteling (*Simon Fraser Univ.*), D.M. Seliverstov, I.I. Strakovsky (*St. Petersburg Nuclear Physics Inst.*), Y. Wu (*TRIUMF-Inst. of Atomic Energy, Beijing*)
594. The elastic and inelastic scattering of intermediate energy protons on deuterium at small momentum transfer [completed], S. Burzynski, A. Trudel (*Simon Fraser Univ.*), J.E. Cromer, R. Helmer, K.P. Jackson, B.E. King, S. Yen (*TRIUMF*), I. Slaus (*Rudjer Boškovic Institute, Zagreb*), B. Spicer (*Univ. of Melbourne*)
595. Measurement of  $iT_{11}$  in pion absorption on  $^3\text{He}$  [completed data-taking], C. Chan, B. Larson, A. Rahav, M. Vetterli (*Simon Fraser Univ.*), O. Häusser (*SFU-TRIUMF*), P. Delheij, D.R. Gill, P. Levy (*TRIUMF*), G. Jones, M. Pavan (*Univ. of British Columbia*), A. Altman, D. Ashery, S. Ram (*Tel-Aviv Univ.*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
596. Giant spin excitation in deformed nuclei [completed data-taking], D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Richter, H. Woertche (*TH Darmstadt*), O. Häusser (*SFU-TRIUMF*), C. Chan, A. Trudel, M. Vetterli (*Simon Fraser Univ.*), A. Celler (*Univ. of Western Ontario*), R. Henderson (*Univ. of Melbourne-TRIUMF*)
597.  $\beta$ -decay branching ratios in  $^{26}\text{Ne}$  and  $^{27}\text{Ne}$  [inactive], P. McNeely, G. Roy (*Univ. of Alberta*), L. Buchmann, M. Dombisky, J. Vincent (*TRIUMF*), J. D'Auria (*Simon Fraser Univ.*)
598. Pion-proton integral cross sections in the resonance region [completed data-taking], E. Friedman, A. Goldring, M. Schechter (*Hebrew Univ. of Jerusalem*), A. Altman (*Soreq NRC*), R.R. Johnson, D. Vetterli (*Univ. of British Columbia*), J. Jaki, M. Metzler (*Univ. Karlsruhe*), B.K. Jennings (*TRIUMF*)
599. Muons and muonium in solid hydrogen [completed data-taking], D. Arseneau, J.H. Brewer, K. Chow, T. Duty, D.G. Fleming, W.N. Hardy, M. Montour, G.D. Morris, D. Mould (*Univ. of British Columbia*), C. Ballard, M. Gingras, K. Hoyle, S.R. Kreitzman, M. Senba (*TRIUMF*), V.G. Storchak (*Kurchatov Inst.*)
600.  $\mu\text{SR}$  in high- $T_c$  superconductors [active], J.H. Brewer, J.F. Carolan, K. Chow, T. Duty, P. Dosanjh, J. Elzey, W.N. Hardy, S. Johnston, R.F. Kiefl, R. Liang, A. MacFarlane, G.D. Morris, T.M. Riseman, I. Shinkoda, P.C.E. Stamp (*Univ. of British Columbia*), J. Akimitsu, A. Amano (*Aoyama-Gakuin Univ.*), E.J. Ansaldo, J. Boyle (*Univ. of Saskatchewan*), C. Ballard, K. Hoyle, S.R. Kreitzman, J.W. Schneider, M. Senba (*TRIUMF*), H. Zhou (*CTF Systems*), P. Mendels (*Orsay-UBC*), C. Niedermayer (*Univ. Konstanz-TRIUMF*), H. Glückler (*Univ. Konstanz*), G.M. Luke (*Columbia Univ.*), R. Cary, H.P. Cook, M. Davis, D.R. Noakes, M.U. Spurlock, C.E. Stronach (*Virginia State Univ.*), L.J. Campbell, L.L. Daemen (*Los Alamos National Lab*), A. Amato, F.N. Gygax, A. Schenck, M. Weber (*IMP/ETH Zürich*), H. Maletta (*KFA Jülich*), S. Lee (*Univ. of Birmingham*), T. Iwasaki, N. Nishida, S. Okuma, S. Shiratake (*Tokyo Inst. of Tech.*), N. Mohri (*ISSP, Univ. of Tokyo*), K. Nishiyama (*Univ. of Tokyo*) J. Sugiyama, S. Tanaka, H. Yamauchi (*SRL/ISTEC*), B. Martinez (*Univ. Barcelona*), Zhong Ming (*IHEP Beijing*)
601. Properties of the flux lattice in high- $T_c$  superconductors [completed data-taking], J.H. Brewer, J.F. Carolan, K. Chow, T. Duty, P. Dosanjh, J. Elzey, W.N. Hardy, S. Johnston, R.F. Kiefl, R. Liang, A. MacFarlane, G.D. Morris, T.M. Riseman, I. Shinkoda, P.C.E. Stamp (*Univ. of British Columbia*), J. Akimitsu, A. Amano (*Aoyama-Gakuin Univ.*), E.J. Ansaldo, J. Boyle (*Univ. of Saskatchewan*), C. Ballard, K. Hoyle, S.R. Kreitzman, J.W. Schneider, M. Senba (*TRIUMF*), H. Zhou (*CTF Systems*), P. Mendels (*Orsay-UBC*), C. Niedermayer (*Univ. Konstanz-TRIUMF*), H. Glückler (*Univ. Konstanz*), G.M. Luke (*Columbia Univ.*), R. Cary, H.P. Cook, M. Davis, D.R. Noakes, M.U. Spurlock, C.E. Stronach (*Virginia State Univ.*), L.J. Campbell, L.L. Daemen (*Los Alamos National Lab*), A. Amato, F.N. Gygax, A. Schenck, M. Weber (*IMP/ETH Zürich*), H. Maletta (*KFA Jülich*), S. Lee (*Univ. of Birmingham*), T. Iwasaki, N. Nishida, S. Okuma, S. Shiratake (*Tokyo Inst. of Tech.*), N. Mohri (*ISSP, Univ. of Tokyo*), K. Nishiyama (*Univ. of Tokyo*) J. Sugiyama, S. Tanaka, H. Yamauchi (*SRL/ISTEC*), B. Martinez (*Univ. Barcelona*), Zhong Ming (*IHEP Beijing*)
603.  $\mu^+\text{SR}$  studies of 1-dimensional magnetic systems [active], L.P. Le, G.M. Luke, B.J. Sternlieb, Y.J. Uemura, W.D. Wu (*Columbia Univ.*), J.H. Brewer, R. Kiefl, T.M. Riseman (*Univ. of British Columbia*), S.R. Kreitzman (*TRIUMF*), M. Mekata (*Fukui Univ.*), Y. Ajiro (*Kyoto Univ.*), K. Kakurai (*Tohoku Univ.*)



604. Slow muon physics ( $\mu$ SOL) [active], G. Aeppli, D. Bishop, A.T. Fiory, D.R. Harshman, R.N. Kleiman, A.P. Mills (*AT&T Bell Laboratories*), A.S. Rupaal, J.H. Turner\* (*Western Washington Univ.*), M. Senba, D.Ll. Williams (*Univ. of British Columbia*)
605. Final muon states in semiconductors using rf  $\mu$ SR spectroscopy [completed data-taking], S.A. Dodds, T.L. Estle, B. Hitti (*Rice Univ.*), R.C. DuVarney (*Emory Univ.*), J. Brewer, K. Chow, D.Ll. Williams (*Univ. of British Columbia*), S.R. Kreitzman, J.W. Schneider, M. Senba (*TRIUMF*), C.D. Lamp, R.L. Lichti (*Texas Tech. Univ.*), S.F.J. Cox (*Rutherford Appleton Lab*), T. Pfiz (*Max Planck Inst.*), P. Mendes (*Univ. de Paris Sud*)
606.  $\mu^+$ SR studies of exotic superconductors [active], L.P. Le, G.M. Luke, B.J. Sternlieb, Y.J. Uemura, W.D. Wu (*Columbia Univ.*), J.H. Brewer, R. Kiefl, T.M. Riseman (*Univ. of British Columbia*), S.R. Kreitzman (*TRIUMF*), M.B. Maple, C.L. Seaman (*Univ. of California, San Diego*), M. Ishikawa (*Univ. of Tokyo, ISSP*), A.W. Sleight (*Oregon State Univ.*), R. Giannetta (*City Univ. of New York*), J.D. Jorgensen, G.D. Hinks (*Argonne National Lab*)
607. Isomeric muonated radicals [completed data-taking], G.B. Porter, D.C. Walker, Z. Wu (*Univ. of British Columbia*), M.V. Barnabas (*Argonne National Lab*), J.M. Stadlbauer\* (*Hood College*), B.W. Ng (*Winona State Univ.*), K. Venkateswaran (*Hindustan Lever Ltd.*)
608. Muonium in GaP and GaAs [completed], E.J. Ansaldo (*Univ. of Saskatchewan*), K. Chow, S.R. Kreitzman, A. MacFarlane, T. Pfiz (*Univ. of British Columbia*), T.L. Estle, B. Hitti (*Rice Univ.*), R.C. DuVarney (*Emory Univ.*), R.F. Kiefl (*UBC-TRIUMF*), R.L. Lichti (*Texas Tech. Univ.*), J.W. Schneider (*TRIUMF*), C. Schwab (*CRN, Strasbourg*)
609. Fluorescence measurement of the vibrational energy distribution of  $\text{MuF}(v)$  [active], D.J. Arseneau, S. Baer, D.G. Fleming, J.J. Pan, M. Senba, A. Tempelmann (*Univ. of British Columbia*), G.M. Marshall (*TRIUMF*), J.J. Sloan (*Univ. of Waterloo*)
610. Muonium dynamics and reactivity in Si at high temperature [completed], K. Chow, S.R. Kreitzman, A. MacFarlane (*Univ. of British Columbia*), T.L. Estle, B. Hitti (*Rice Univ.*), R.C. DuVarney (*Emory Univ.*), R.F. Kiefl (*UBC-TRIUMF*), R.L. Lichti (*Texas Tech. Univ.*), J.W. Schneider (*TRIUMF*), C. Schwab (*CRN, Strasbourg*), M. Senba (*TRIUMF-UBC*)
611.  $\mu$ SR investigations of  $\text{RT}_2$  intermetallics (R=rare earth, T=transition metal) [completed data-taking], G.M. Kalvius, A. Kratzer, K-H. Münch, M. Weber (*Tech. Univ. Munich*), L. Asch (*Univ. of Munich*), R. Wäppling (*Univ. of Uppsala*), J. Deportes (*CRNS Grenoble*), J.H. Brewer, K. Chow, R.F. Kiefl (*Univ. of British Columbia*), S.R. Kreitzman, J. Schneider (*TRIUMF*)
612. Hyperfine dependence of exclusive muon capture on  $^{19}\text{F}$ ,  $^{23}\text{Na}$ ,  $^{27}\text{Al}$ ,  $^{35}\text{Cl}$ , and  $^{37}\text{Cl}$  [completed data-taking], D.S. Armstrong (*Virginia Polytech. Inst. & State Univ.*), T.P. Gorringer, B. Johnson, J. Bauer, M. Kovash, M. Pickar (*Univ. of Kentucky*), M. Hasinoff, D. Measday, B. Mofteh (*Univ. of British Columbia*), D. Wright (*TRIUMF*)
613. Reactions of muonic hydrogen isotopes [completed data-taking], G.A. Beer, P.E. Knowles, M. Maier, G.R. Mason, A. Olin, T. Porcelli (*Univ. of Victoria*), G.M. Marshall (*TRIUMF*), M.C. Fujiwara (*Univ. of British Columbia*), R. Jacot-Guillarmod, F. Mulhauser, L.A. Schaller (*Univ. de Fribourg*), T.M. Huber (*Gustavus Adolphus College*), K.M. Crowe, P. Kammel (*Lawrence Berkeley Lab*), J. Zmeskal (*IMEP Vienna*), A.R. Kunselman (*Univ. of Wyoming*), C. Petitjean (*PSI*) J.M. Bailey (*Chester Technology*), S.K. Kim (*Jeonbuk National Univ.*), A. Adamczak (*Inst. Nuclear Physics, Krakow*), M. Faifman, V. Markushin (*RRC Kurchatov Inst.*)
614. Precise measurement of the  $\rho$ ,  $\sigma$  and  $(P_\mu\xi)$  parameters in muon decay [active], P.A. Amaudruz, M. Comyn, D.R. Gill, P. Gumplinger, R. Helmer, J.A. Macdonald, D. Ottewell, R. Openshaw, J.-M. Poutissou, R. Poutissou, G. Sheffer, G.D. Wait, D. Wright (*TRIUMF*), P. Depommier (*Univ. of Montréal*), P. Green, P. Kitching, M. Quraan, N. Rodning, J. Soukup, G.M. Stinson (*Univ. of Alberta*), M. Hasinoff (*Univ. of British Columbia*), E.L. Mathie, R. Tacik (*Univ. of Regina*), W. Shin (*Univ. of Saskatchewan*), Y. Davydov (*JINR, Moscow*), C. Gagliardi, J. Hardy, J. Musser, R. Tribble, M. Vasiliev (*Texas A&M Univ.*), D. Koetke, R. Manweiler, S. Stanislaus (*Valparaiso Univ.*), A. Khruchinsky, Y. Lachin, V. Selivanov, V. Torokhov (*KIAE, Moscow*), L. Piilonen (*Virginia Tech. Inst.*)
615. Normal and sideways spin observables for the reaction  $\bar{p}\bar{n} \rightarrow pp(^1S_0)\pi^-$  [deferred], D. Ashery, H. Han, M. Moinester, S. Ram, A. Yavin (*Tel Aviv Univ.*), C. Chan, O. Häusser, B. Larson, A. Rahav (*Simon Fraser Univ.*), P. Delheij, D. Hutcheon, P. Levy, M. Vetterli (*TRIUMF*), F. Duncan, G. Jones (*Univ. of British Columbia*), R. Henderson (*TRIUMF-Univ. of Melbourne*),
616. Spin-momentum correlations of nucleons in polarized  $^3\text{He}$  [completed data-taking], W.P. Alford, A. Celler (*Univ. of Western Ontario*), C. Chan, B. Larson, A. Rahav, A. Trudel, Bin Xiao (*Simon Fraser Univ.*), T.E. Chupp

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- (*Harvard Univ.*), P. Delheij, K.P. Jackson, P. Levy, M. Vetterli (*TRIUMF*), O. Häusser (*SFU-TRIUMF*), R. Henderson (*Univ. of Melbourne-TRIUMF*), D.M. Whittal (*NAC South Africa*), R. Woloshyn (*TRIUMF-SFU*)
617. Mass and decay studies of nuclei near the proton dripline [completed data-taking], J. Batchelder, D.M. Moltz, T. Ognibene (*Lawrence Berkeley Lab*), P.L. Reeder (*Pacific Northwest Lab*), J. D'Auria (*SFU-TRIUMF*), M. Dombisky (*Simon Fraser Univ.*), L. Buchmann (*TRIUMF*), P. McNeely (*Univ. of Alberta*), K. Toth (*Oak Ridge National Lab*)
618.  $pp$  elastic cross sections at TRIUMF energies [deferred], C. Chan, S. Burzynski, B. Larson, A. Rahav, A. Trudel, Bin Xiao (*Simon Fraser Univ.*), O. Häusser (*SFU-TRIUMF*), R. Abegg\*, R. Helmer, D. Hutcheon, K.P. Jackson, C.A. Miller, D. Ottewell, M. Vetterli, P. Walden, S. Yen (*TRIUMF*), W.P. Alford, A. Celler (*Univ. of Western Ontario*), R. Henderson (*Univ. of Melbourne-TRIUMF*), D.M. Whittal (*NAC South Africa*), A. Yavin (*Tel Aviv Univ.*)
619. Studies on high- $T_c$  superconductor LaSrCuO with ( $\mu^-0$ ) probes [completed data-taking], K. Nishiyama, K. Nagamine (*Univ. of Tokyo*), E. Torikai, H. Kojima, I. Tanaka (*Univ. of Yamanashi*), H. Kitazawa (*RIKEN*), R. Saito (*Univ. of Electro-communications*)
620.  $\mu^-$ SR study in trans-(CH) $x$  [active], K. Nagamine, K. Nishiyama, S. Ikehata, N. Oda (*Univ. of Tokyo*)
621. Studies on secondary electron emission in  $\mu$ -foil interactions [active], T. Azuma, Y. Miyake, K. Nishiyama, Y. Watanabe, Y. Yamazaki (*Univ. of Tokyo*), K. Nagamine (*Univ. of Tokyo-RIKEN*), T. Matsuzaki (*RIKEN*), K. Kuroki (*Inst. Police Science, Tokyo*)
622. Normal and anomalous muonium in  $^{13}\text{C}$  diamond [active], J.W. Schneider (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), K. Chow, S.R. Kreitzman, A. MacFarlane (*Univ. of British Columbia*), S. Connell, J.P.F. Sellschop, M.C. Stemmet (*Univ. of the Witwatersrand*), T.L. Estle, B. Hitti (*Rice Univ.*), R.C. DuVarney (*Emory Univ.*), R.F. Kiefl (*UBC-TRIUMF*), D. Lamp, R.L. Lichti (*Texas Tech. Univ.*), C. Schwab (*CRN, Strasbourg*)
623. Kinematically complete measurements of quasifree pion-nucleus single and double scattering reactions [inactive], G. Burleson, G. Kyle, S. Mukhopadhyay, M. Rawool, (*New Mexico State Univ.*), P.A. Amaudruz, D. Ottewell, G.R. Smith (*TRIUMF*), N. Chant, P. Roos (*Univ. of Maryland*), A. Klein (*Old Dominion Univ.*), J.T. Brack (*Univ. of British Columbia*)
624. The ( $\pi, 2\pi$ ) reaction, a tool to determine scattering lengths and coupling constants [completed data-taking], F. Bonutti, P. Camerini, E. Fragiaco, N. Grion, R. Rui (*Univ. of Trieste*), G. Hofman, M. Kermani, S. McFarland, K. Raywood, P. Tagliente (*Univ. of British Columbia*), P. Amaudruz, L. Felawka, D. Healey, R. Meier, D. Ottewell, G. Smith (*TRIUMF*), E. Mathie, R. Tacik (*Univ. of Regina*), J. Brack, R. Ristinen (*Univ. of Colorado*), J. Clark, M. Sevier (*Univ. of Melbourne*), E. Gibson (*California State Univ., Sacramento*), O. Patarakin, V. Tikhonov (*Kurchatov Inst.*), E.L. Mathie, R. Tacik (*Univ. of Regina*)
625. Low energy pion-nucleus reaction and total cross sections [completed data-taking], S. Høibråten, M. Kohler, B. Kriss, R.J. Peterson, R.A. Ristinen, J. Wise (*Univ. of Colorado*), J.T. Brack, D. Ottewell (*TRIUMF*), R.R. Johnson (*Univ. of British Columbia*), D. Oakley (*Lewis & Clark Univ.*)
626. The characterization of the emitting source in fragment production [deferred], R. Korteling (*Simon Fraser Univ.*), K.P. Jackson (*TRIUMF*), V. Viola (*Indiana Univ.*), K. Kwiatkowski (*IUCF*), S. Kaufmann (*Argonne National Lab*)
627. A search for narrow resonant-like structures in  $pp$  and  $pA$  interactions using the polarized proton beam at TRIUMF [completed data-taking], V.V. Avdeichikov, V.A. Nikitin, P.V. Nomokonov, A.V. Pavlik (*JINR*), A. Gafarov, A. Kadishnov, Yu. Koblik, V. Pirogov, B.S. Yuldashev (*Inst. of Nucl. Phys., Tashkent*), S. Kan, A. Khaneles, A. Pak, E. Surin, K. Turdaliev (*Phys. Tech. Inst., Tashkent*), S. Yen (*TRIUMF*), V. Chaloupka, W. Dougherty, G. Liang, H.J. Lubatti, T. Zhao (*Univ. of Washington*)
628. A search for deeply bound pionic states in heavy nuclei via the pion production reaction  $^{208}\text{Pb}(n, d)$  [complete], S. Burzynski, D. Frekers, D. Hutcheon, K.P. Jackson, Y. Kuno, O. Häusser, C.A. Miller, A. Olin, A. Trudel, M. Vetterli, S. Yen (*TRIUMF*), M.H. Tanaka, T. Yamazaki (*INS Tokyo*), N. Matsuoka (*Osaka Univ.*), A. Okihana (*Kyoto Univ. of Education*)
629.  $\text{GT}^+$  strength distribution of astrophysical interest in ( $fp$ ) shell nuclei [completed], W.P. Alford, A. Celler (*Univ. of Western Ontario*), D. Frekers, K.P. Jackson, K. Lee, M. Vetterli (*TRIUMF*), R. Henderson (*TRIUMF-Univ. of Melbourne*), S. Burzynski, A. Rahav, A. Trudel (*Simon Fraser Univ.*), S. El-Kateb (*King Fahd Univ. of Petroleum and Minerals*)
630. Elastic proton scattering from sideways- and longitudinally-polarized  $^3\text{He}$  [completed data-taking] D.M. Whittal (*NAC South Africa-SFU*), R. Abegg\*, P. Delheij, P. Levy, M. Vetterli (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), E.J. Brash, C. Chan, B. Larson, A. Rahav, A. Trudel (*Simon Fraser Univ.*), T.E. Chupp

(*Harvard Univ.*), O. Häusser (*SFU-TRIUMF*), R. Henderson (*Univ. of Melbourne-TRIUMF*), J.P. Svenne (*Univ. of Manitoba*)

631. Giant spin excitation in  $^{238}\text{U}$  [completed data-taking], R. Abegg\*, A. Celler, D. Frekers, R. Henderson, K.P. Jackson, C.A. Miller, A. Trudel, M. Vetterli, S. Yen (*TRIUMF*), P.W. Green (*TRIUMF-Univ. of Alberta*), A. Richter, H. Woertche (*Univ. of Darmstadt*)
632. Dilepton production in nucleon-nucleus collisions [deferred], A. Stetz, L.W. Swenson (*Oregon State Univ.*), K. Hicks (*Ohio University*), P. Walden (*TRIUMF*), F. Farzanpay, P. Fuchs, J. Zhao (*Ohio State Univ.*)
633. A measurement of  $p + p \rightarrow p + n + \pi^+$  at 420 and 500 MeV [active], K. Hicks (*Ohio Univ.*), M. Benjamintz, W.R. Falk, R.G. Pleydon (*Univ. of Manitoba*), R. Abegg\*, D. Hutcheon, A. Miller, P. Walden, S. Yen (*TRIUMF*), M. Hartig (*Univ. of Munster*), G. O'Reilly (*Univ. of Northern British Columbia*)
634. Investigation of the  $(p, d\pi^+)$  reaction in the quasifree region [active], M. Benjamintz, J.R. Campbell, W.R. Falk, A. Green (*Univ. of Manitoba*), P.L. Walden, S. Yen (*TRIUMF*), E. Korkmaz (*Univ. of Northern British Columbia*), E.G. Auld (*Univ. of British Columbia*)
635. Experimental survey of the  $(\bar{p}, \pi^-)$  reaction in the  $\Delta$ -region [active], E. Korkmaz (*Univ. of Northern British Columbia*), R. Abegg\*, D.A. Hutcheon, A. Lang, P.L. Walden, S. Yen (*TRIUMF*), W.C. Olsen, A.K. Opper, M. Punyasena (*Univ. of Alberta*), E.G. Auld, G. Jones (*Univ. of British Columbia*), R.D. Bent (*IUCF*), J. Campbell, W.R. Falk (*Univ. of Manitoba*)
636. The  $^{12}\text{C}(p, p'\pi^\pm)$  reaction to discrete final states [active], A. Celler, D. Frekers, C.A. Miller, A. Trudel, P. Walden, S. Yen (*TRIUMF*), E.G. Auld, G. Jones (*Univ. of British Columbia*), W. Falk (*Univ. of Manitoba*), E. Korkmaz (*Univ. of Alberta*), L. Bland, T. Londergan, R. Mehrem, P. Schwandt, G. Walker (*Indiana Univ.*), B.K. Jain (*Bhabha Inst.*)
637. Nucleon knockout with SASP [active], R. Abegg\*, D. Frekers, P.W. Green, D.A. Hutcheon, C.A. Miller, P.L. Walden (*TRIUMF*), N.S. Chant, P. Roos (*Univ. of Maryland*), E.D. Cooper (*Ohio State Univ.*), L.G. Greeniaus (*TRIUMF-Univ. of Alberta*), K. Hicks (*Ohio Univ.*), P. Kitching, W.J. McDonald, W.C. Olsen (*Univ. of Alberta*), D. Mack (*CEBAF*), O. Maxwell (*Florida State Univ.*)
638.  $\pi^+ \rightarrow e^+\nu\gamma$  in flight with the high intensity 240 MeV/c pion beam at TRIUMF [deferred], G. Atoyan, V. Bolotov, S. Gninenko, E. Guschin, V. Isakov, A. Kovzelev, V. Marin, Yu. Musienko, A. Poblaguev, V. Postoev, I. Semenjuk, S. Volkov (*INR Moscow*), V. Semenov (*IHEP Protvino*), P. Depommier (*Univ. de Montréal*)
639. Muonium enhancement effects in micelles [completed], G.B. Porter, D.C. Walker, Z. Wu (*Univ. of British Columbia*), M.V. Barnabas (*Argonne National Lab*), J.M. Stadlbauer\* (*Hood College*), K. Venkateswaran (*Hindustan Lever Ltd.*), B.W. Ng (*Winona State Univ.*)
640. Search for magnetic correlations in the orthorhombic compounds  $\text{CeT}\text{Sn}$  ( $T = \text{Ni, Pt, Pd}$ ) [active], L. Asch, G.M. Kalvius, A. Kratzer, K.-H. Münch, M. Weber (*Tech. Univ. of Munich*), R.F. Kiefl (*UBC-TRIUMF*), R. Wäppling (*Univ. of Uppsala*), T. Takabatake (*Hiroshima Univ.*)
641. Kinetic isotope effects in H-atom abstraction reactions by muonium:  $\text{Mu} + \text{CH}_4$  and  $\text{Mu} + \text{CD}_4$  [completed], D. Arseneau, D.G. Fleming, J.J. Pan, R. Snooks (*Univ. of British Columbia*), S. Baer, M. Senba (*UBC-TRIUMF*), A. Gonzalez (*Univ. of Southern California, Los Angeles*)
642.  $\mu\text{SR}$  studies on doped- $\text{C}_{60}$  superconductors [completed data-taking], A. Keren, L.P. Le, G.M. Luke, B. Sternlieb, Y.J. Uemura, W.D. Wu (*Columbia Univ.*), J.H. Brewer, R.F. Kiefl, T.M. Riseman (*Univ. of British Columbia*), G. Gruner, K. Holczer (*UCLA*), S.R. Kreitzman (*TRIUMF*)
643. A test of the low-energy theorem for radiative pion capture [completed data-taking], B. Bassalleck (*Univ. of New Mexico*), C. Gossett (*Univ. of Washington*), D. Hutcheon, R. Jacot-Guillarmod, D. Ottewell, R. Schubank, N.R. Stevenson (*TRIUMF*), M.A. Kovash, K. Liu (*Univ. of Kentucky*), E. Korkmaz, A. Opper (*Univ. of Alberta*), J. Miller (*Boston Univ.*), Y.M. Shin (*Univ. of Saskatchewan*)
645. Absolute differential cross sections in the  $\pi^\pm + p \rightarrow \pi^\pm + p$  reaction around the  $\Delta$  resonance [completed data-taking], F. Duncan, A. Feltham, G. Jones, J. Lange, M.M. Pavan, K. Raywood, M.E. Sevier (*Univ. of British Columbia*), R. Adams, J. Brack, R. Helmer, D.F. Ottewell, G.R. Smith, B. Wells (*TRIUMF*), R.A. Ristinen (*Univ. of Colorado*), I. Strakovski (*Virginia Tech. Inst.*), E.L. Mathie, R. Tacik (*Univ. of Regina*), H. Staudenmaier (*Univ. of Karlsruhe*)
646.  $\mu\text{SR}$  study of  $\text{GaAs}/\text{Al}_x\text{Ga}_{1-x}\text{As}$  superlattices and 2D electron gases [completed data-taking], J.H. Brewer, K. Chow, R.F. Kiefl, S.R. Kreitzman, A. MacFarlane, T. Tiedje (*Univ. of British Columbia*), S.A. Dodds, T.L. Estle (*Rice Univ.*), R.C. DuVarney (*Emory Univ.*), D. Lamp, R.L. Lichti (*Texas Tech. Univ.*), J.W. Schneider, C. Zhang (*TRIUMF*), C. Schwab (*CRN, Strasbourg*)

647.  $\mu^-$  transfer and mesomolecule formation in D<sub>2</sub>-He mixture [completed data-taking], M. Iwasaki, S. Sakamoto, P. Strasser (*Univ. of Tokyo*), K. Nagamine (*Univ. of Tokyo-RIKEN*), K. Ishida, T. Matsuzaki, Y. Watanabe (*RIKEN*), M. Kamimura (*Kyushu Univ.*), E. Torikai (*Yamanashi Univ.*)
648. Magnetism and superconductivity in heavy fermion systems [completed data-taking], G.M. Luke, A. Keren, L.P. Le, B.J. Sternlieb, Y.J. Uemura, W.D. Wu (*Columbia Univ.*), J.H. Brewer, R. Kiefl, T.M. Riseman (*Univ. of British Columbia*), S.R. Kreitzman (*TRIUMF*), M.B. Maple, C.L. Seaman (*Univ. of California, San Diego*), Y. Onuki (*Univ. of Tsukuba*)
650. Kinetic isotope effects favouring muonium [active], G.B. Porter, D.C. Walker (*Univ. of British Columbia*), J.M. Stadlbauer\* (*Hood College*), K. Venkateswaran (*Hindustan Lever Ltd.*), H.A. Gillis (*St. Francis Xavier Univ.*)
651. Gamow-Teller unit cross section from  $^{64}\text{Ni}(n,p)^{64}\text{Co}(\text{g.s.})$  [active], W.P. Alford (*Univ. of Western Ontario*), E.J. Brash, W. Cummings, W. Kielhorn, A. Trudel (*Simon Fraser Univ.*), O. Häusser (*SFU-TRIUMF*), R. Henderson, K.P. Jackson, M.C. Vetterli, S. Yen (*TRIUMF*), R.L. Boudrie, J. Ullmann (*LAMPF*), S. El-Kateb (*King Fahd Univ. of Petroleum and Minerals*), H.T. Fortune (*Univ. of Pennsylvania*)
652. Spin-momentum distributions of protons in polarized  $^3\text{He}$  [completed data-taking], E. Brash, W. Cummings, W. Kielhorn (*Simon Fraser Univ.*), P. Delheij, R. Henderson, M. Vetterli, S. Yen (*TRIUMF*), M. Epstein, D. Margaziotis (*California State Univ.*), O Häusser (*SFU-TRIUMF*), R. Woloshyn (*TRIUMF-SFU*)
653. Measurement of the  $\pi^+\pi^-$  invariant mass in nuclei. A tool for determining the mass distribution of the  $\sigma$  meson [completed data-taking], P. Amaudruz, J. Brack, D. Ottewell, G.R. Smith (*TRIUMF*), G. Jones, R.R. Johnson, M.E. Sevier (*Univ. of British Columbia*), E.L. Mathie, R. Tacik (*Univ. of Regina*), R.A. Ristinen (*Univ. of Colorado*), G.S. Kyle (*New Mexico State Univ.*), P. Schuck (*ISN Grenoble*), G. Chanfray (*IPN Lyon*), P. Camerini, R. Rui (*Univ. di Trieste*), N. Grion (*INFN Trieste*)
654. Muon investigations of fullerene chemistry [complete], B. Addison-Jones, J.-C. Brodovitch, F. Ji, P.W. Percival (*Simon Fraser Univ.*), D.M. Bartels (*Argonne National Lab*)
655. Total cross section for the  $p(\pi^+, \pi^+\pi^0)$  reaction near threshold [completed data-taking], R.R. Johnson, N. Suen (*UBC-TRIUMF*), N. Fazel, V. Sossi (*Univ. of British Columbia*), A. Altman (*TRIUMF-Tel Aviv Univ.*), E. Friedman, M. Paul, M. Schechter (*Hebrew Univ. Jerusalem*), G.J. Wagner (*Univ. Tübingen*)
656. A comparison of the  $(n,p)$  and  $(\mu^-, \nu)$  reactions on  $^{23}\text{Na}$  [completed data-taking], W.P. Alford (*Univ. of Western Ontario*), J. Bauer, J. Evans, T.P. Gorringer, B. Siebels (*Univ. of Kentucky*), S. El-Kateb (*King Fahd Univ. of Petroleum and Minerals*), R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), A. Trudel (*Simon Fraser Univ.*)
657. Longitudinal  $\mu^-$  SR studies on high  $T_c$  superconductor LaSrCuO [completed data-taking], H. Kojima, I. Tanaka, E. Torikai (*Yamanashi Univ.*), K. Kojima, K. Nagamine, K. Nishiyama (*Univ. of Tokyo*), H. Kitazawa (*RIKEN*)
658. Application of  $\mu\text{SR}$  to the study of solid C<sub>60</sub> compounds [active], E.J. Ansaldo (*Univ. of Saskatchewan*), J.H. Brewer, K. Chow, T.L. Duty, J. Elzey, R.F. Kiefl, A. MacFarlane (*Univ. of British Columbia*), R.C. DuVarney (*Emory Univ.*), T.L. Estle, B. Hitti (*Rice Univ.*), J. Fischer (*Univ. of Pennsylvania*), D. Lamp, R.L. Lichti (*Texas Tech. Univ.*), J.W. Schneider (*TRIUMF*), C. Schwab (*CRN Strasbourg*)
659. Production of slow and monoenergetic  $(^3\text{H } \mu^-)^+$  beam from the decay of  $(d^3\text{He } \mu)$  molecule [active], M. Iwasaki, K. Nagamine, S. Sakamoto, P. Strasser (*Univ. of Tokyo*), K. Ishida (*RIKEN*), E. Torikai (*Yamanashi Univ.*)
660. Gamow-Teller strength distributions from  $^{13}\text{C}(n,p)^{13}\text{B}$  and  $^{27}\text{Al}(n,p)^{27}\text{Mg}$  [completed data-taking], W.P. Alford (*Univ. of Western Ontario*), S. Burzynski (*Simon Fraser Univ.*), H.T. Fortune, P. Hui, R. Ivie, M. McKinzie, D.A. Smith, A.L. Williams (*Univ. of Pennsylvania*), O. Häusser (*SFU-TRIUMF*), R. Henderson, K.P. Jackson, M. Vetterli (*TRIUMF*)
661. The neutron-neutron scattering length via  $\pi^- d \rightarrow \gamma nn$  [completed data-taking], B. Bassalleck, H. Fischer, D. Wolfe (*Univ. of New Mexico*), E. Christy, T.P. Gorringer, C. Jiang, M.A. Kovash, K. Liu, (*Univ. of Kentucky*), E. Korkmaz (*Univ. of Northern British Columbia*), D. Measday, M. Saliba, T. Stocki (*Univ. of British Columbia*), D. Ottewell (*TRIUMF*), A. Opper (*Univ. of Alberta*), K.S. Sim (*Korea Univ.*), J. Stasko (*Michigan State Univ.*)
662. Complete beta-delayed one- and two-proton emission study of  $^{22}\text{Al}$  [letter of intent], J.C. Batchelder, J. Cerny, D.M. Moltz, T. Ognibene, M.W. Rowe, R.J. Tighe (*Lawrence Berkeley Lab*), J. D'Auria, M. Dombisky (*Simon Fraser Univ.*), L. Buchmann, J. Vincent (*TRIUMF*)
663. Study of the  $\Delta$  isobar admixture in nuclei and search for exotic states [active], R. Abegg\*, L. Lee, S. Yen (*TRIUMF*), G. Jones (*Univ. of British Columbia*), A. Gorelov (*Kurchatov Inst.*), F. Khanna (*Univ. of Alberta*), A. Kotov, D. Seliverstov, I.I. Strakovsky, L. Uvarov (*St. Petersburg Nuclear Physics Inst.*)
664. Muonium formation and reaction on powdered platinum surface [active], R. Kadono, A. Matsushita (*RIKEN*), K. Nishiyama (*Univ. of Tokyo*), K. Nagamine (*Univ. of Tokyo-RIKEN*)

665. Muon spin relaxation in quasicrystals [active], E.J. Ansaldo (*Univ. of Saskatchewan*), J.H. Brewer (*Univ. of British Columbia*), G.M. Luke (*Columbia Univ.*), P. Mendels (*Univ. Paris Sud Orsay*), D.R. Noakes, C.E. Stronach (*Virginia State Univ.*), S.J. Poon (*Univ. of Virginia*)
666. A search for deeply bound pionic atoms via the radiative pion capture reaction  $^{208}\text{Pb}(\pi^-, \gamma)$  [completed data-taking], R.R. Johnson, G. Jones, J. Lange, S. McFarland, K.J. Raywood, M.E. Sevier (*Univ. of British Columbia*), A. Altman, D.A. Hutcheon, S. Yen (*TRIUMF*)
667. Interference of Fermi and Gamow-Teller amplitudes in the  $^3\overline{\text{He}}(\overline{\pi}, p)\text{T}$  reaction [active], R. Abegg\*, P. Delheij, E. Henderson, K.P. Jackson, M.C. Vetterli, S. Yen (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), E.J. Brash, S. Burzinsky, W. Cummings, E. Gete, W.B. Lorenzon (*Simon Fraser Univ.*), O. Häusser (*SFU-TRIUMF*), C. Horowitz (*Indiana Univ.*), K. Hicks, B.W. Larson, J. Rapaport (*Ohio Univ.*), L. Ray (*Univ. of Texas*)
668. de Haas van Alphen oscillations in the muon Knight shift in antimony metal [active], S. Johnston, R.F. Kiefl, E. Koster, D.Ll. Williams (*Univ. of British Columbia*), S.R. Kreitzman (*TRIUMF*)
669.  $\mu^+$ SR in exotic single-crystal superconductors [active], G. Aeppli, B. Batlogg, D. Bishop, C. Broholm, R.J. Cava, G.P. Espinosa, D.R. Harshman, R.N. Kleinman, L.F. Schneemeyer (*AT&T Bell Labs*), E.J. Ansaldo (*Univ. of Saskatchewan*), E. Bucher (*AT&T Bell Labs-Univ. Konstanz*), T.M. Riseman, D.Ll. Williams (*Univ. of British Columbia*)
670. Radiative muon capture on nuclei [active], D.S. Armstrong (*College of William and Mary*), P. Depommier (*Univ. de Montréal*), B. Doyle, T.P. Goringe (*Univ. of Kentucky*), P. Bergbusch, M.D. Hasinoff, D. Sample, E. Saettler (*Univ. of British Columbia*), C. Chen, P. Gumplinger, J.A. Macdonald, J.-M. Poutissou, R. Poutissou, D.H. Wright (*TRIUMF*), M. Blecher, C. Sigler (*Virginia Polytechnic Inst. & State Univ.*)
671. Muonium's pH-dependence [active], G.B. Porter, D.C. Walker (*Univ. of British Columbia*), J.M. Stadlbauer\* (*Hood College*), M.V. Barnabas (*Proctor & Gamble Ltd.*), K. Venkateswaran (*Hindustan Lever Ltd.*)
672.  $\mu$ SR studies of Kagome lattice and other frustrated spin systems [active], A. Keren, L. Le, G. Luke, Y.J. Uemura, W.D. Wu (*Columbia Univ.*) Y. Ajiro, M. Mekata (*Fukui Univ.*), H. Kikuchi (*Tsukuba Univ.*), M. Takano (*Kyoto Univ.*), K. Kakurai (*ISSP, Tokyo Univ.*)
673.  $\mu$ SR studies of  $\text{Tl}2201$  and infinite layer cuprate high- $T_c$  systems [active], L.P. Le, G.M. Luke, Y.J. Uemura, W.D. Wu (*Columbia Univ.*) K. Kajima, S. Uchida, (*Tokyo Univ.*), Y. Kubo (*NEC Research Inst.*), M. Takano (*Kyoto Univ.*), J.T. Markert (*Univ. of Texas*), J.H. Brewer (*TRIUMF-UBC*)
674. Measurements of exclusive muon capture rates in the  $1s-0d$  shell [active], J. Bauer, J. Evans, T. Goringe, B. Johnson, M. Kovash (*Univ. of Kentucky*), P. Gumplinger, M. Hasinoff, D. Measday, B. Moftah (*Univ. of British Columbia*), D. Armstrong (*Univ. of California, Berkeley*), D. Wright (*TRIUMF*)
675. Irradiation of silicon tracker component [completed data-taking], M. Frautschi, J.A.J. Matthews, S. Seidel (*Univ. of New Mexico*), A. Grillo, K. O'Shaughnessy, W.A. Rowe, H. Sadrozinski, E. Spencer, A. Webster, M. Wilder (*Univ. of California, Santa Cruz*), S.S. Han, A.P.T. Palounek, H. Ziock (*Los Alamos National Lab*), T. Collins, I. Kipnis, H. Spieler (*Lawrence Berkeley Lab*), J. Krizmanic, J. Skarha (*Johns Hopkins Univ.*), M. Cheng, M.-L. Chu, G. Rurngsheng, P.K. Teng (*Academica Sinica*), E. Kajfasz, J. Pawlak, P. Ratzmann, J. Spalding, L. Spiegel (*Fermilab*), T. Ohsugi (*Hiroshima Univ.*), H. Iwasaki, T. Kondo, S. Terada, Y. Unno (*KEK*), J. Boudreau, T. Huffman, P. Shepard (*Univ. of Pittsburgh*), B. Tannenbaum (*Texas A&M Univ.*), D. Benjamin, A. Sill (*Texas Tech. Univ.*)
676. Forward diproton production in deuterium and hydrogen [active], R. Abegg\*, K.P. Jackson, C.A. Miller, P. Walden, S. Yen (*TRIUMF*), W.P. Alford (*Univ. of Western Ontario*), S. Burzynski, A. Trudel (*Simon Fraser Univ.*)
677. Surface interactions and motions of radicals in zeolites [active], D.J. Arseneau, D.G. Fleming, C.A. Fyfe, M. Shelley, J. Pan (*Univ. of British Columbia*), E. Roduner (*Univ. of Zürich*), S. Kreitzman, M. Senba (*TRIUMF*)
678. Beta delayed deuteron emission from  $^6\text{He}$  [active], L. Buchmann, K.P. Jackson (*TRIUMF*), J.M. D'Auria, R.G. Korteling (*Simon Fraser Univ.*), M. Dombisky (*SFU-Univ of Alberta*), U. Giessen (*TRIUMF-Univ. of Toronto*), J. King (*Univ. of Toronto*), V.G. Lind, Z.-Y. Zhou (*Utah State Univ.*), P. McNeely, G. Roy (*Univ. of Alberta*), P. Reeder (*Pacific Northwest Lab*)
679. Systematic study of 3D-transition metal oxides by  $\mu$ SR [active], W. Higemoto, T. Iwasaki, H. Nishida, H. Nishiki, M. Sekino (*Tokyo Inst. of Technology*), P. Birrer, K. Kojima, K. Nishiyama (*Univ. of Tokyo*)
680. Muonium diffusion in ice [active], B. Addison-Jones, J.-C. Brodovitch, F. Ji, P. Percival (*Simon Fraser Univ.*), D.M. Bartels (*Argonne National Lab*)

681. Decay properties of extremely neutron-rich noble-gas nuclides [active], L. Buchmann, U. Giessen (*TRIUMF*), J. D'Auria (*Simon Fraser Univ.*), P.L. Reeder (*Pacific Northwest Lab*), M. Domsbky (*SFU–Univ. of Alberta*), P. McNeely, G. Roy (*Univ. of Alberta*)
682. Nuclear studies of  $^9\text{B}$ ,  $^8\text{B}$ , and  $^5\text{Li}$  [completed data-taking], R.E. Azuma, J.D. King, J. Powell (*Univ. of Toronto*), L. Buchmann, C. Iliadis (*TRIUMF*), K.P. Jackson (*TRIUMF–SFU*), J. D'Auria, R. Korteling (*Simon Fraser Univ.*), M. Domsbky (*Univ. of Toronto–Univ. of Alberta*), U. Giesen (*TRIUMF–Univ. of Alberta*), G. Roy (*Univ. of Alberta*)
683. Asymmetries following muon capture by polarized muonic  $^3\text{He}$  [active], J. Behr, A. Gorelov, W. Lorenzon (*Simon Fraser University*), W. Cummings, P. Delheij, G.M. Marshall (*TRIUMF*), M. Hasinoff, J.C. Huang, E. Saettler (*Univ. of British Columbia*), O. Häusser (*SFU–TRIUMF*), K. Hicks (*Ohio Univ.*), P. Bogorad, G.D. Cates, K. Kumar, A. Young (*Princeton Univ.*), R. Holmes, J. McCracken, P. Souder, X. Wang (*Syracuse Univ.*), B. Larson (*Univ. of Minnesota*), D. Tupa (*Los Alamos National Lab*)
684.  $\mu\text{SR}$  spin relaxation studies of small molecules in the gas phase [active], D. Arseneau (*TRIUMF*), J.J. Pan (*UBC–TRIUMF*), D. Fleming (*Univ. of British Columbia*), M. Senba (*Dalhousie Univ.*), T. Claxton (*Univ. of Leicester*), S.F.J. Cox (*Rutherford Appleton Lab.*), U. Himmer, E. Roduner (*Univ. of Stuttgart*)
685. Muonium in CVD-diamond films [active], R.F. Kiefl, A. MacFarlane (*Univ. of British Columbia*), S.H. Connell, J.P.F. Sellschop, C.G. Smallman (*Univ. of the Witwatersrand*), T.L. Estle, B. Hitti (*Rice Univ.*)
686.  $^{18}\text{O}$  PNC [active], P. McNeely, G. Roy (*Univ. of Alberta*), L. Buchmann (*TRIUMF*), J.M. D'Auria (*Simon Fraser Univ.*), M. Domsbky (*Univ. of Alberta–SFU*), U. Giesen (*TRIUMF–Univ. of Toronto*), K.P. Jackson (*TRIUMF–SFU*), J. Powell (*Univ. of Toronto*)
687.  $\mu\text{SR}$  investigation of frustrated antiferromagnets  $\text{Tb}_2\text{Mo}_2\text{O}_7$ ,  $\text{Y}_2\text{Mo}_2\text{O}_7$  and  $\text{LiNiO}_2$  [active], J. Brewer, J. Chakhalian, S. Dunsiger, R. Kiefl, A. MacFarlane, R.I. Miller, J. Sonier (*Univ. of British Columbia*), J. Gardner, B. Gaulin, J. Greedan (*McMaster Univ.*), M. Gingras (*TRIUMF*), G. Luke, Y.J. Uemura (*Columbia Univ.*), K. Kojima (*Univ. of Tokyo*)
688. Pion production through  $n+p \rightarrow ^2\text{He}+\pi^-$  [active], R. Abegg\*, D.A. Hutcheon, W. Kellner, A. Ling, C.A. Miller, P. Walden, S. Yen (*TRIUMF*), D. Frekers, W. Garske, V. Hennen, M. Hartig, H.J. Wörtche (*Westfälische-Wilhelms Univ. at Münster*), A.K. Opper (*Univ. of Ohio*), J.A. Niskanen (*Univ. of Helsinki*), H. Machner (*KFA Jülich*)
691. TF- $\mu^+$ SR lineshape in high- $T_c$  superconductors [active], D.A. Bonn, J.H. Brewer, S. Dunsiger, W.N. Hardy, R.F. Kiefl, R. Liang, W.A. MacFarlane, R.I. Miller, J. Sonier (*Univ. of British Columbia*), T.M. Riseman (*Univ. of Indiana*), D.R. Noakes, C.E. Stronach, M.F. White Jr. (*Virginia State Univ.*), S.R. Kreitzman (*TRIUMF*)
692. Quantum diffusion of muonium in cryocrystals: probing microscopic crystalline defects with muons [active], A. Benbasat, J.H. Brewer, D.G. Fleming, W.N. Hardy, G. Morris (*Univ. of British Columbia*), D. Arseneau, C. Ballard, M. Good, B. Hitti, S.R. Kreitzman (*TRIUMF*), E.J. Ansaldo (*Univ. of Saskatchewan*), N.V. Prokof'ev, V.G. Storchak (*Kurchatov Inst.*), S.P. Cottrell, S.F.J. Cox (*Rutherford Appleton Lab*)
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816. Semiconductor quantum wells investigated by  $\beta$ -NMR [active], J.H. Brewer, J.C. Chakhalian, S. Dunsiger, R. Miller, T. Tiedje (*Univ. of British Columbia*), M. Gingras (*Univ. of Waterloo*), B. Ittermann (*Univ. of Marburg*), B. Hitti, P. Levy, S.R. Kretzman, A. Zelenski (*TRIUMF*), R.F. Kiefl (*TRIUMF-UBC*)
817.  $\beta$ -NMR investigation of type II superconductors [active], D. Bonn, J.H. Brewer, J.C. Chakhalian, S. Dunsiger, W. Hardy, R. Liang, R.F. Kiefl, W.A. MacFarlane, R. Miller, J. Sonier (*Univ. of British Columbia*), M. Gingras (*Univ. of Waterloo*), R. Heffner (*Los Alamos National Lab*), B. Ittermann (*Univ. of Marburg*), B. Hitti, P. Levy, S.R. Kretzman, A. Zelenski (*TRIUMF*), G.M. Luke (*Columbia Univ.*), J.W. Brill (*Univ. of Kentucky*)
818.  $\mu^+$ SR study of magnetic ordering in the one-dimensional spin-1/2 antiferromagnet copper benzoate [active], J.C. Chakhalian, S. Dunsiger, R.F. Kiefl, W.A. MacFarlane, R. Miller, J. Sonier (*Univ. of British Columbia*), C. Broholm, D.C. Dender, P. Hammar, D. Reich (*Johns-Hopkins Univ.*), G. Luke, T. Uemura (*Columbia Univ.*)
819.  $\mu^+$ SR studies of the antiferromagnetic instability and metastable state in colossal magnetoresistance system  $(\text{Nd}_{1-y}\text{Sm}_y)_{1/2}\text{Sr}_{1/2}\text{MnO}_3$  ( $y = 0.875$ ) [active], W. Higemoto, I. Watanabe (*RIKEN*), K. Nishiyama (*KEK*), K. Nagamine (*RIKEN-KEK*), A. Asamitsu, H. Kuwahara, Y. Tokura (*JRCAT, Univ. of Tokyo*)
821. Shape coexistence and shape mixing in neutron-deficient platinum isotopes: on-line nuclear orientation studies of the decays of  $^{182}\text{Au}$  and  $^{186}\text{Au}$  [active], K.S. Krane (*Oregon State Univ.*), J.L. Wood (*Georgia Inst. of Tech.*), J. D'Auria (*Simon Fraser Univ.*)
822. Effect of disorder on quantum spin liquid state [active], J. Akimitsu, K. Ishii, K. Oishi, T. Yokoo (*Aoyama Gakuin Univ.*), R. Kadono, K. Nagamine (*RIKEN*), K. Nishiyama (*KEK*)
823. Pure fermi decay in medium mass nuclei [active], J. Cerny, D.M. Moltz, J. Powell (*Lawrence Berkeley Lab*), G. Savard (*Argonne National Lab*), J.C. Hardy (*Texas A&M Univ.*), J. D'Auria (*Simon Fraser Univ.*)
824. Measurement of the astrophysical rate of the  $^{21}\text{Na}(p,\gamma)^{22}\text{Mg}$  reaction [active], N.P.T. Bateman, J.M. D'Auria, D. Hunter, R. Korteling (*Simon Fraser Univ.*), R.N. Boyd (*Ohio State Univ.*), L. Buchmann, R. Helmer, D. Hutcheon, K.P. Jackson, A. Olin, J. Rogers (*TRIUMF*), U. Giesen (*SFU-TRIUMF*), G. Roy (*Univ. of Alberta*), U. Greife, C. Rolfs, F. Strieder, H.-P. Trautvetter (*Ruhr-Univ. Bochum*), A. Hussein (*Univ. of Northern British Columbia*), J.D. King (*Univ. of Toronto*), P.D. Parker (*Yale Univ.*), A. Shotter (*Univ. of Edinburgh*), M. Wiescher (*Univ. of Notre Dame*), S. Kubono (*Univ. of Tokyo*), T. Motobayashi (*Rikkyo Univ.*)
825. Equilibrium defects and order in intermetallic compounds studied using isomeric probes [active], G.S. Collins (*Washington State Univ.*)
826. Studies of ultrathin magnetic films with implanted isotopes [active], R. Kiefl, A. Kotlicki, J. Pond, B.G. Turrell (*Univ. of British Columbia*), R.C.C. Ward, M.R. Wells (*Oxford Univ.*), B. Heinrich (*Simon Fraser Univ.*), P. Delheij (*TRIUMF*), K. Krane (*Oregon State Univ.*)
827. Parity violation in  $^{182}\text{W}$  [active], J. D'Auria (*TRIUMF-SFU*), C.A. Davis P.P.J. Delheij (*TRIUMF*), R. Kiefl, A. Kotlicki, J. Pond, B. Turrell (*Univ. of British Columbia*), K.S. Krane (*Oregon State Univ.*)
828. Nuclear moments in the mass-100 region [active], K.S. Krane (*Oregon State Univ.*), J.L. Wood (*Georgia Inst. of Tech.*), J.M. D'Auria (*Simon Fraser Univ.*)
829. Muonium as a hydrogen isotope: reactions in solution [active], D.P. Chong, G.B. Porter, D.C. Walker (*Univ. of British Columbia*), K. Venkateswaran (*Hindustan Lever Ltd.*), H.A. Gillis (*St. Francis Xavier Univ.*)
830. The hot entropy bubble and the decay of  $^9\text{Li}$  [active], N. Bateman (*TRIUMF-SFU-Toronto*), L. Buchmann, K.P. Jackson, S. Karataglidis, T. Shoppa, E. Vogt (*TRIUMF*), J. Chow, J.D. King, C. Mortin (*Univ. of Toronto*), T. Davison, A. Ostrowski, A. Shotter (*Univ. of Edinburgh*), J. D'Auria, U. Giesen (*Simon Fraser Univ.*), E. Gete, D. Measday (*Univ. of British Columbia*)
831. Magnetic properties of  $\text{REBa}_2\text{Cu}_3\text{O}_x$  [active], D. Andreica, F.N. Gygax, M. Pinkpank, A. Schenck (*ETH Zürich*), B. Hitti (*TRIUMF*), A. Amato (*PSI*), J.H. Brewer (*UBC-TRIUMF*)

832. Study of the nonmagnetic-magnetic transition in the  $\text{Yb}(\text{Cu}_{1-x}\text{Ni}_x)_2\text{Si}_2$  system [active], D. Andreica, F. Gygax, M. Pinkpank, A. Schenck (*ETH Zürich-PSI*), A. Amato (*PSI*), B. Hitti (*TRIUMF*)
833.  $\mu\text{SR}$  studies of doped  $\text{MnSi}$  and  $\text{V}_{2-y}\text{O}_3$ : non-fermi-liquid behavior, spin fluctuations and itinerant magnetism [active], Y. Fudamoto, K. Kojima, M. Larkin, G.M. Luke, B. Nachumi, O. Tchernyshyov, Y.J. Uemura (*Columbia Univ.*), R.H. Heffner, J. Sorrao (*Los Alamos National Lab*), D.E. MacLaughlin (*Univ. of California, Riverside*), M. Isobe, K. Ueda, Y. Ueda (*Univ. of Tokyo*), Z. Fisk (*Florida State Univ.*), J.H. Brewer (*Columbia Univ.-UBC*)
834.  $\mu\text{SR}$  study of transverse spin freezing in bond-frustrated magnets [deferred], A. Kuprin, D.H. Ryan, J. van Lierop (*McGill Univ.*)

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