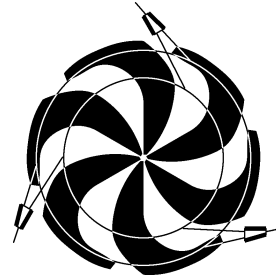


# TRIUMF



## ANNUAL REPORT SCIENTIFIC ACTIVITIES 1999

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**CANADA'S NATIONAL LABORATORY  
FOR PARTICLE AND NUCLEAR PHYSICS**

OPERATED AS A JOINT VENTURE

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UNDER A CONTRIBUTION FROM THE  
NATIONAL RESEARCH COUNCIL OF CANADA

JULY 2000

*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The following lists experiment proposals received up to the end of 1999 (missing numbers cover proposals that have been withdrawn or replaced by later versions or rejected or combined with another proposal).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 (*UBC*), T. Masterson (*U. Colorado*), P. Walden (*TRIUMF*)
3. The study of fragments emitted in nuclear reactions [completed], R.E.L. Green, R.G. Korteling (*SFU*), K.P. Jackson (*TRIUMF*), L. Church (*Reed Coll.*)
6. Studies of the proton- and pion-induced fission of light to medium mass nuclides [completed], B.D. Pate (*UBC*), H. Blok (*Novatrack*), H. Dautet, F.M. Kiely (*SFU*), 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 U.*), A. Bagheri, M.D. Hasinoff, D.F. Measday (*UBC*), J.-M. Poutissou, M. Salomon (*TRIUMF*), R. Poutissou (*U. de Montréal*), B.C. Robertson (*Queen's U.*)
10. Positive pion production in proton-proton and proton-nucleus reactions [completed], E.G. Auld, G. Jones (*UBC*), R.R. Johnson (*TRIUMF-UBC*), T. Masterson (*U. Colorado*), P. Walden (*TRIUMF*)
11. Nuclear spectroscopic studies of short-lived radioactive products of high energy reactions [completed], J.M. D'Auria, H. Dautet (*SFU*), 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 (*U. Alberta*), L.G. Greeniaus, D.A. Hutcheon, C.A. Miller, J.G. Rogers (*TRIUMF*), M. de Jong, W.T.H. van Oers (*U. Manitoba*), C. Goulding (*Los Alamos National Lab*), A.W. Stetz (*Oregon State U.*), 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 (*U. Alberta*), P. Kitching (*TRIUMF-U. 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 U.*), A.N. James (*U. Liverpool*)
21. Optical activity induced by polarized elementary particles [completed], L.D. Hayward, D.C. Walker (*UBC*)
22. Negative pion capture and absorption on carbon, nitrogen and oxygen [passed to Biomedical Experiments Evaluation Committee], H.B. Knowles (*Washington State U.*)
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 (*U. de Montréal*), D. Bryman (*TRIUMF-U. Victoria*), J.A. Macdonald, J.-M. Poutissou, M. Salomon (*TRIUMF*), M. Dixit (*National Research Council*), M.D. Hasinoff, D.F. Measday (*UBC*)
24. Elastic scattering of polarized protons on  $^{12}\text{C}$  [completed], G.A. Moss, G. Roy, D.M. Sheppard,\* H. Sherif (*U. 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 (*U. Victoria*), C. Amsler (*CERN*), E.G. Auld, D.A. Axen (*UBC*), D.V. Bugg, J.A. Edgington (*U. London, QMC*), A.S. Clough (*U. Surrey*), J.R. Richardson\* (*UCLA*), N.M. Stewart (*U. London, Bedford Coll.*), J. Va'vra (*SLAC*)
27. Measurement of the polarization in free neutron-proton scattering [completed], D.A. Axen, E.G. Auld (*UBC*), C. Amsler (*CERN*), D.V. Bugg, J.A. Edgington (*U. London, QMC*), A.S. Clough (*U. Surrey*), J.R. Richardson\* (*UCLA*), L.P. Robertson (*U. Victoria*), G. Roy (*U. Alberta*), N.M. Stewart (*U. London, Bedford Coll.*), 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\* (*UBC*), Y.C. Jean (*U. Missouri, KC*), K.M. Crowe (*Lawrence Berkeley Lab*)
40. A proposal for neutron experiments at TRIUMF [completed], D.A. Axen, M.K. Craddock (*UBC*), I.M. Blair (*AERE Harwell*), D.V. Bugg, J.A. Edgington (*U. London, QMC*), A.S. Clough (*U. Surrey*), N.M. Stewart (*U. London, Bedford Coll.*), 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 (*UBC*)

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 (*U. Victoria*), D. Bryman, A. Olin (*TRIUMF-U. Victoria*), J.A. Macdonald, J.S. Vincent (*TRIUMF*), M. Dixit (*National Research Council*), M. Krell (*U. de Sherbrooke*)
46. Hyperfine splitting in polarized muonic  $^{209}\text{Bi}$  atoms [completed], G.T. Ewan, H.B. Mak, B.C. Robertson (*Queen's U.*), G.A. Beer, G.R. Mason, R.M. Pearce\* (*U. Victoria*), A. Olin (*TRIUMF-U. Victoria*), D.G. Fleming (*UBC*), K. Nagamine, T. Yamazaki (*U. Tokyo*)
47. Photon asymmetry in radiative muon capture [completed], J.H. Brewer, M.D. Hasinoff, R. MacDonald (*UBC*), K. Krane (*Oregon State U.*), J.-M. Poutissou (*TRIUMF*)
48. Fertile-to-fissile conversion in electrical breeding (spallation) targets [completed], I.M. Thorson, F.M. Kiely (*SFU*), B.D. Pate (*UBC*)
52. Measurement of the  $\pi \rightarrow e\nu$  branching ratio [completed], D. Bryman, A. Olin (*TRIUMF-U. Victoria*), G.R. Mason (*U. Victoria*), D. Berghofer (*UBC*), 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 (*UBC*)
54.  $\pi^\pm$  reaction cross-section measurements on isotopes of calcium [completed], R.R. Johnson (*TRIUMF-UBC*), K.L. Erdman (*UBC*), J.L. Beveridge (*TRIUMF*)
55.  $\mu^-$  capture in deuterium and the two-neutron interaction [completed], J.M. Cameron, W.J. McDonald, G.C. Neilson (*U. Alberta*), H.W. Fearing (*TRIUMF*)
56. A study of the decay of the muon [completed], M.D. Hasinoff, R. MacDonald (*UBC*), P. Depommier (*U. 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 (*U. de Montréal*), J.-M. Poutissou (*TRIUMF*)
58. Polarization effects of the spin-orbit coupling of nuclear protons [completed], W.K. Dawson, P. Kitching (*TRIUMF-U. 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 (*U. 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 (*U. Manitoba*), J.M. Cameron, G.A. Moss (*U. Alberta*), R. Abegg\*, L.G. Greeniaus, J.G. Rogers (*TRIUMF*), M.B. Epstein, D.J. Margaziotis (*California State U. Los Angeles*), A.W. Stetz (*Oregon State U.*)
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\* (*UBC*)
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 (*U. Toronto*)
65. Radiosensitivities of tumours *in situ* to  $\pi$ -meson irradiation [completed], S. Okada, K. Sakamoto, N. Suzuki (*U. Tokyo*), T. Ono (*U. 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 (*U. Alberta*), J.V. Jovanovich (*U. Manitoba*), J.R. Richardson\* (*UCLA*), A.W. Stetz (*Oregon State U.*), A. Szyjewicz (*U. Saskatchewan*)
71. Muon spin rotation project [completed], J.H. Brewer, A. Duncan, D.G. Fleming, D.Ll. Williams (*UBC*), M. Doyama, R. Hayano, K. Nagamine, T. Yamazaki (*U. Tokyo*), B.D. Patterson (*U. Zürich*)
72. Solid state studies by muonic x-ray polarization [completed], H. Hayano, K. Nagamine, N. Nishida, T. Yamazaki (*U. Tokyo*), R.M. Pearce\* (*U. Victoria*)
73. Artificial muon polarization [completed], R. Hayano, K. Nagamine, N. Nishida, T. Yamazaki (*U. Tokyo*), J.H. Brewer, D.G. Fleming, M.D. Hasinoff (*UBC*), H.B. Mak (*Queen's U.*)
74. Proposal to measure  $D, R$  and  $R'$  in  $pp$  scattering, 200 to 500 MeV [completed], D.V. Bugg, J.A. Edgington, K. Shakarchi (*U. London, QMC*), D.A. Axen (*UBC*), A.S. Clough (*U. Surrey*), S. Jaccard (*U. de Neuchâtel*), N.M. Stewart (*U. London, Bedford Coll.*), 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 (*U. Alberta*), P. Kitching (*TRIUMF-U. Alberta*), E.G. Auld, G. Jones (*UBC*), H.W. Fearing, D.A. Hutcheon, P. Walden (*TRIUMF*), T. Masterson (*U. Colorado*), C.F. Perdrisat (*Coll. of William & Mary*)

77. Evaporation-cooled metallic cesium target assembly for production of  $^{123}\text{I}$  [completed], J.W. Blue (*NASA*), T.A. Hodges (*U. Victoria*), D. Lyster, R.T. Morrison (*Vancouver General Hospital*), J.S. Vincent (*TRIUMF*), J.B. Warren\* (*UBC*), W. Wieseahn (*SFU*)
78. Importance of defects in  $\mu^+\text{SR}$  in metals [completed], T. Yamazaki, K. Nagamine (*U. Tokyo*), B. Bergersen, J.H. Brewer, D.G. Fleming, L.C. Vaz (*UBC*), A.T. Stewart (*Queen's U.*)
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 (*U. Victoria*), D.A. Bryman, A. Olin (*TRIUMF-U. Victoria*), J.-M. Poutissou, J.S. Vincent (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), J.B. Warren\* (*UBC*), 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, (*U. Victoria*), D.A. Bryman, A. Olin (*TRIUMF-U. Victoria*), J.A. Macdonald (*TRIUMF*), M. Dixit (*National Research Council*), W.C. Sperry (*Central Washington U.*)
83. Bound muon decay in nuclei [completed], J.H. Brewer, M.D. Hasinoff, T. Suzuki (*UBC*), J. Alster (*Tel-Aviv U.*), K. Nagamine (*U. 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 (*UBC*), T. Masterson (*U. Colorado*), V.G. Lind, R.E. McAdams, O.H. Otteson (*Utah State U.*), 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-U. Alberta*), R. Liljestr and, W.J. McDonald, G.C. Neilson, H. Sherif, G.M. Stinson (*U. Alberta*), J.S. Blair (*U. Washington*), D.K. McDaniels (*U. Oregon*)
87. Proton radiography studies at TRIUMF [completed], E.W. Blackmore, G.H. Mackenzie (*TRIUMF*), D.A. Bryman (*TRIUMF-U. Victoria*)
88. Systematic studies of total muon capture rates [completed], R. Hayano, K. Nagamine, T. Yamazaki (*U. Tokyo*), J.H. Brewer, F. Entezami, D.F. Measday, S. Stanislaus (*UBC*), D. Garner, (*TRIUMF*)
89.  $\mu$  fission [completed], S.N. Kaplan (*Lawrence Berkeley Lab*), S. Ahmad, G.A. Beer, G.R. Mason, R.M. Pearce,\* (*U. Victoria*), A. Olin (*TRIUMF-U. Victoria*), O. H ausser\* (*TRIUMF-SFU*), J.A. Macdonald (*TRIUMF*), A. Mireshghi (*U. California*)
91. Muonium in semiconductors [completed], J.H. Brewer, D.G. Fleming (*UBC*), K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), K. Nagamine (*U. 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 (*UBC*), C.H.W. Jones (*SFU*), D. Lyster, W. Rowe (*Vancouver General Hospital*)
97. Rare electromagnetic decays of pionic atoms [completed], M.D. Hasinoff, E. Mazzucato, D.F. Measday (*UBC*), J.-M. Poutissou, M. Salomon (*TRIUMF*), P. Depommier, R. Poutissou (*U. de Montr al*), B. Bassalleck (*U. 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 (*U. Alberta*), W.K. Dawson, P. Kitching (*TRIUMF-U. 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 (*U. Manitoba*), J.J. Kraushaar, E. Rost, J.R. Shepard (*U. Colorado*), D.K. McDaniels (*U. Oregon*), B.T. Murdoch (*Schlumberger Well Systems*), A. Olin (*TRIUMF-U. Victoria*), A.W. Stetz, L.W. Swenson (*U. Oregon*)
101. Investigation of ( $\pi, 2\pi$ ) reaction [letter of intent], E.G. Auld, G. Jones (*UBC*), 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 (*SFU*), G.E. Butler, B.J. Dropesky, R.E.L. Green, C.J. Orth, R.A. Williams (*Los Alamos National Lab*), R.M. Henkelman (*U. 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 (*U. Alberta*)
104. The time projection chamber – A new facility for the study of decays of muons and pions [completed], D.A. Bryman (*TRIUMF-U. Victoria*), M. Dixit, C.K. Hargrove, R. McKee, H. Mes (*National Research Council*), G. Azuelos, A. Bennett, J.A. Macdonald, T. Numao, J.-M. Poutissou, J.E. Spuller (*TRIUMF*), L.P. Robertson, (*U. Victoria*), M.D. Hasinoff (*UBC*), P. Depommier, J.P. Martin, R. Poutissou, Y. Sirois (*U. de Montr al*), H.L. Anderson\* (*Los Alamos National Lab*), A.L. Carter, C. Irwin, D. Kessler, J. Stapeldon (*Carleton U.*), C.S. Wright (*U. Chicago*)

105. Backward inclusive scattering [completed], G. Roy, G.A. Moss (*U. Alberta*), J.L. Beveridge, D.A. Hutcheon, R.M. Woloshyn (*TRIUMF*)
108. Meson cascade studies [deferred], G.A. Beer, G.R. Mason (*U. Victoria*), A. Olin (*TRIUMF-U. Victoria*), M. Dixit (*National Research Council*), S.N. Kaplan, C. Wiegand (*Lawrence Berkeley Lab*), J.A. Macdonald (*TRIUMF*), W.C. Sperry (*Central Washington U.*)
110. Microdosimetry of  $\pi^-$  beam at TRIUMF [completed], A. Ito, H. Koyama (*U. 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 (*U. di Trieste and INFN*), R. Cherubini (*Lab Nazionali di Legnaro INFN and U. di Padova*), D. Gill (*TRIUMF*), W. Gyles (*UBC*)
113. A proposal for  $^3\text{He}(p,p)^3\text{He}$  at backward angles [completed], J.M. Cameron, G.A. Moss (*U. Alberta*), B.S. Bhakar, B.K.S. Koene, W.T.H. van Oers (*U. Manitoba*), M.B. Epstein, D.J. Margaziotis (*California State U. Los Angeles*), 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 U.*)
114. The  $(p,2p)$  reaction on  $^4\text{He}$  and  $^3\text{He}$  [completed], B.K.S. Koene, W.T.H. van Oers (*U. Manitoba*), M.B. Epstein, D.J. Margaziotis (*California State U.*), G.A. Moss (*U. 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 (*SFU*), T. Ward (*Indiana U.*), A. Yavin (*Tel-Aviv U.*)
117. Single particle inclusive spectra of light fragments over their entire energy range [completed], R.G. Korteling (*SFU*), 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 (*SFU*), B.D. Patterson (*U. 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 (*SFU*)
121. Test of charge symmetry in  $n$ - $p$  scattering [completed], G.R. Plattner (*Basel U.*), J. Birchall, N.E. Davison, W.T.H. van Oers (*U. Manitoba*), D.A. Axen (*UBC*), J.L. Beveridge, C.A. Miller, J.G. Rogers (*TRIUMF*), W.J. McDonald, G.A. Moss, G. Roy, G.M. Stinson (*U. Alberta*), L.P. Robertson (*U. 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 (*SFU*), B.D. Patterson (*U. Zürich*)
123. Observation of  $e^+$  channeling from stopped  $\mu^+$  in a crystalline host [completed], A.S. Arrott (*SFU*), B.D. Patterson (*U. Zürich*)
124. Excitation of giant multipole resonances by intermediate-energy protons [completed], F.E. Bertrand, E. Gross, D.J. Horen, T. Sjoreen (*Oak Ridge National Lab*), L. Lisantti, D.K. McDaniels, J. Tinsley (*U. Oregon*), L.W. Swenson (*Oregon State U.*)
126. Measurement of the line shape of pionic x-rays [deferred], A. Olin (*TRIUMF-U. Victoria*), G.A. Beer, G.R. Mason, R.M. Pearce\* (*U. 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\* (*U. Victoria*), A. Olin (*TRIUMF-U. Victoria*), M. Dixit (*National Research Council*), E. Klempt (*U. Mainz*), J.A. Macdonald (*TRIUMF*), C. Wiegand (*Lawrence Berkeley Lab*), A.W. Thomas (*U. Adelaide*)
128. Variation of muonic x-ray intensities with atomic number [completed], G.A. Beer, G.R. Mason (*U. Victoria*), A. Olin (*TRIUMF-U. Victoria*), M. Dixit (*National Research Council*), J.A. Macdonald (*TRIUMF*), W.C. Sperry (*Central Washington U.*), 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 (*UBC*), G. Azuelos, D. Gill, E.W. Vogt, P. Walden (*TRIUMF*), D. Ashery, A. Errell, A. Yavin (*Tel-Aviv U.*), B. Bassalleck (*U. New Mexico*), T. Masterson (*U. Colorado*), A.W. Thomas (*U. Adelaide*)
130. The energy dependence of the polarization parameter in proton-proton scattering [completed], D.A. Axen, E.G. Auld (*UBC*), D.V. Bugg, J.A. Edgington, W.R. Gibson (*U. London, QMC*), A.S. Clough (*U. Surrey*), N.M. Stewart (*U. London, Bedford Coll.*), M. Comyn, G. Ludgate (*TRIUMF*), J.R. Richardson\* (*UCLA*), L.P. Robertson (*U. Victoria*)
131. A study of  $(\vec{p}, \gamma)$  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 (*U. Alberta*), P. Kitching (*TRIUMF-U. Alberta*), A.W. Stetz, L.W. Swenson (*Oregon State U.*), 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 (*UBC*), 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 (*U. California, Berkeley*), J.H. Brewer (*UBC*)
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 (*Coll. of William & Mary*)
138. Surface muon studies of germanium [completed], K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), C.M. Clawson (*U. California, Berkeley*), J.H. Brewer (*UBC*)
139. Macroscopic diffusion of positive muons in aluminum [completed], K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), C.M. Clawson (*U. California, Berkeley*), J.H. Brewer (*UBC*)
140. Transfer effects for stopping  $\pi^-$  in H<sub>2</sub>-D<sub>2</sub> mixtures [completed], M.D. Hasinoff, D.F. Measday (*UBC*), J.-M. Poutissou, M. Salomon (*TRIUMF*), V. Highland (*Temple U.*)
141. Muonic hydrogen at STP – A feasibility study [deferred], J.H. Brewer (*UBC*), C. Oram (*TRIUMF*)
142. A study of the single scattering mechanism for non-evaporative fragment emission [completed], D.H. Boal, R.G. Korteling (*SFU*), K.P. Jackson (*TRIUMF*), R.E.L. Green (*Los Alamos National Lab*)
143. A study by recoil detection of proton-induced reaction on <sup>9</sup>Be [completed], K.P. Jackson (*TRIUMF*), D.H. Boal, J.M. D’Auria, R.G. Korteling (*SFU*), R.E.L. Green (*Los Alamos National Lab*)
144. Studies of ( $\bar{p}, d$ ) reaction in nuclei [completed], J.M. Cameron, R. Liljestr and, W.J. McDonald, G.C. Neilson, W.C. Olsen, D.M. Sheppard,\* G.M. Stinson (*U. Alberta*), P. Kitching (*TRIUMF-U. Alberta*), J.J. Kraushaar, J.R. Shepard (*U. Colorado*), D.A. Hutcheon, C.A. Miller, J.G. Rogers (*TRIUMF*), C. Stronach (*Virginia State U.*), D.K. McDaniels, J. Tinsley (*U. Oregon*)
145. The neutron and gamma-ray correlation in the negative pion capture in <sup>165</sup>Ho and <sup>181</sup>Ta [completed], Y.K. Lee, R. Levin, L. Madansky (*Johns Hopkins U.*)
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\* (*UBC*), D.M. Garner, R. Kiefl (*TRIUMF*)
149.  $\mu$ SR studies of phase transition [completed], M. Doyama, R. Nakai, R. Yamamoto, T. Yamazaki (*U. Tokyo*), J.H. Brewer, H. Schilling, D.Ll. Williams (*UBC*)
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 (*SFU*), D.G. Fleming, D.C. Walker (*UBC*)
151. Interaction of muons with fissile nuclides II [completed], A. Olin (*TRIUMF-U. Victoria*), S. Ahmad, G.A. Beer, R.M. Pearce\* (*U. Victoria*), J.C. Brown (*Lawrence Livermore National Lab*), S.N. Kaplan (*Lawrence Berkeley Lab*), O. H usser\* (*TRIUMF-SFU*), J.A. Macdonald (*TRIUMF*)
152. Measurement of the spin rotation parameter  $R$  in  $p$ -<sup>4</sup>He elastic scattering [completed], G.A. Moss, G. Roy, J. Uegaki (*U. Alberta*), R. Abegg\*, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), C.A. Davis, W.T.H. van Oers (*U. Manitoba*), J.M. Greben (*CSIR/NRMIS, Pretoria*)
153. Elastic scattering of protons from <sup>3</sup>He [completed], W.T.H. van Oers, D.K. Hasell (*U. Manitoba*), J.M. Cameron, G.A. Moss (*U. Alberta*), R. Abegg\*, L.G. Greeniaus, C.A. Miller (*TRIUMF*), M.B. Epstein, D.J. Margaziotis (*California State U. Los Angeles*), H. Postma (*Technical U. Delft*), A.W. Stetz (*Oregon State U.*)
154. Muonium in solids [completed], J.H. Brewer, D.G. Fleming, H. Schilling, D.P. Spencer, D.Ll. Williams (*UBC*), K.M. Crowe, S.S. Rosenblum (*Lawrence Berkeley Lab*), C.M. Clawson (*U. California, Berkeley*), T. Yamazaki (*U. Tokyo*), R. Kiefl (*TRIUMF*), Y.J. Uemura (*Columbia U.*)
155. Study of deep hole states in <sup>40</sup>Ca with ( $\bar{p}, 2p$ ) reaction [completed], P. Kitching (*TRIUMF-U. Alberta*), P.W. Green, W.J. McDonald, K. Michaelian, W.C. Olsen, D.M. Sheppard,\* J. Soukup, G.M. Stinson, I.J. van Heerden (*U. Alberta*), D.A. Hutcheon, C.A. Miller (*TRIUMF*), A.N. James (*U. Liverpool*)
156. Deuteron production in proton-nucleus collisions [completed], J.M. Cameron, R. Liljestr and, W.J. McDonald, W.C. Olsen, (*U. Alberta*), P. Kitching (*TRIUMF-U. Alberta*), J. K allne (*JET Joint Undertaking*), C.F. Perdrisat (*Coll. of William & Mary*)
157. The chemistry of muonium atoms in condensed media [completed], J.H. Brewer, D.G. Fleming, R. Rist, D.C. Walker (*UBC*), D. Garner (*TRIUMF*), Y.C. Jean (*U. Missouri-Kansas City*), Y. Ito (*U. Tokyo*), P.W. Percival (*SFU*)

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 (*U. Alberta*), I. van Heerden (*U. Alberta and Suni*), P. Kitching (*TRIUMF-U. Alberta*), C.F. Perdrisat (*Coll. of William & Mary*), H.W. Fearing, C.A. Miller (*TRIUMF*), J. Källne (*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 (*UBC*), M. Comyn (*TRIUMF*), G.A. Beer (*U. Victoria*), W. Dahme (*U. Munich*), U. Gastaldi, G. Graff, H. Kalinowsky, E. Kayser, E. Klempt, R. Landau, R. Schulze, R.W. Wodrich, (*U. Mainz*), C.J. Martoff (*Lawrence Berkeley Lab*), C. Sabev (*U. Geneva*), P. Truol (*U. Zürich*)
160. Studies of some ternary magnetic superconductors with muons [completed], C.Y. Huang (*Los Alamos National Lab*), J.H. Brewer, H. Schilling (*UBC*), C.W. Clawson (*U. 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 (*UBC*), C.W. Clawson (*U. 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 (*SFU*), T.W. Ward (*Indiana U.*), T. Ruth (*TRIUMF*)
165. Cross sections and analysing power measurements of giant resonances for incident 200–500 MeV [completed], J. Lisantti, D.K. McDaniels, J. Tinsley (*U. Oregon*), F.E. Bertrand, E.E. Gross, T. Sjoreen (*Oak Ridge National Lab*), D. Drake (*Los Alamos National Lab*), L.W. Swenson (*Oregon State U.*), I. Bergqvist (*U. Lund*)
166. Neutron-nuclear structure with pion [completed], R.R. Johnson (*TRIUMF-UBC*), B. Barnett, K.L. Erdman, W. Gyles (*UBC*), E.W. Blackmore, D.R. Gill (*TRIUMF*), E.L. Mathie (*U. Regina*), D. Ashery (*Tel-Aviv U.*), N. Grion (*INFN and U. di Trieste*), J.J. Kraushaar, T. Masterson (*U. Colorado*), C.A. Wiedner (*Max Planck Institut*), S.A. Martin (*KfA Jülich*)
168. 2S muonium production from thin foils [completed], R. Kiefl, C.J. Oram (*TRIUMF*), J.H. Brewer, A. Fry, J.B. Warren,\* (*UBC*), G.M. Marshall (*U. Victoria*)
169. Proton elastic scattering from  ${}^{16}\text{O}$  [completed], D.A. Hutcheon, C.A. Miller (*TRIUMF*), P. Kitching (*TRIUMF-U. Alberta*), J.M. Cameron, R. Liljestränd, G.C. Neilson, W.C. Olsen, D.M. Sheppard,\* H. Sherif, G.M. Stinson, H. Wilson (*U. Alberta*), P. Schwandt (*Indiana U.*), D.K. McDaniels, J. Tinsley (*U. Oregon*), W.T.H. van Oers (*U. Manitoba*)
170. Fission-evaporation competition in heavy nuclei at intermediate energies [completed], P. Kitching (*TRIUMF-U. Alberta*), H. Fielding, S.T. Lam, G.C. Neilson, W.C. Olsen, J. Uegaki (*U. 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. Liljestränd, G.A. Moss, G. Roy, H. Wilson (*U. Alberta*)
173. Measurement of pionic 4–3 x-ray transitions in heavy nuclei [completed], A. Olin (*TRIUMF-U. Victoria*), G.A. Beer, G.R. Mason (*U. Victoria*), P.R. Poffenberger (*U. Manitoba*), J.A. Macdonald, T. Numao (*TRIUMF*), B. Olaniyi (*U. Ife*)
174. Spin dependence of the  $pp \rightarrow pn\pi^+$  reaction [completed], D.A. Axen, C. Waltham (*UBC*), D.V. Bugg, J.A. Edgington (*U. London, QMC*), N.M. Stewart (*U. London, Bedford Coll.*), M. Comyn, G. Ludgate (*TRIUMF*), J.R. Richardson\* (*UCLA*), L.P. Robertson (*U. 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 (*UBC*), E.W. Blackmore, D.R. Gill (*TRIUMF*), G. Lolos (*U. Regina*), J. Alster (*Tel-Aviv U.*), N. Grion (*INFN and U. di Trieste*), J.J. Kraushaar, T. Masterson (*U. Colorado*)
178. Nuclear radius studies in the Ca region [completed], R.R. Johnson (*TRIUMF-UBC*), B. Barnett, K.L. Erdman, W. Gyles, (*UBC*), E.W. Blackmore, D.R. Gill (*TRIUMF*), G. Lolos (*U. Regina*), N. Grion (*INFN and U. di Trieste*), J.J. Kraushaar, T. Masterson (*U. 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 (*U. Manitoba*), P.W. Green, W.J. McDonald, G.A. Moss, G. Roy, G.M. Stinson (*U. Alberta*), R. Abegg\*, L.G. Greeniaus, C.A. Miller (*TRIUMF*)



184. Investigation of the  $\bar{p}+{}^2\text{H} \rightarrow {}^3\text{H} + \pi^+$  reaction from 275 to 450 MeV using polarized protons [completed], E.G. Auld, G. Giles, G. Jones, W. Ziegler (*UBC*), 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 (*U. California-LBL*), C. Oram (*TRIUMF*), B. Gobbi (*Northwestern U.*)
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 (*Coll. of William & 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, (*UBC*), G. Lolos (*U. Regina*), W. Falk (*U. 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 (*SFU*), J. Clark (*LAMPF*), T. Ward (*Indiana U.*), A. Yavin (*Tel-Aviv U.*)
190. Radiative polarized neutron capture on protons [completed], J.M. Cameron, W.J. McDonald, J. Soukup, J. Uegaki (*U. Alberta*), P. Kitching (*TRIUMF-U. Alberta*), R. Abegg\*, D.A. Hutcheon, C.A. Miller (*TRIUMF*), I.J. Van Heerden (*Southern Nuclear Inst.*), A.W. Stetz (*Oregon State U.*), Y.M. Shin (*U. Saskatchewan*)
191. Muons and muonium on surfaces [completed], J.H. Brewer, D. Harshman, J.B. Warren\* (*UBC*), C.J. Oram (*TRIUMF*), K.M. Crowe (*Lawrence Berkeley Lab*), G. Dash (*U. Washington*), W.S. Glausinger, R.F. Marzke (*Arizona State U.*)
192. Measurement of the pion production asymmetries from the reaction  $\bar{p}p \rightarrow d\pi^+$  with a polarized proton beam between energies of 400 and 520 MeV [completed], D. Ottewell, P. Walden (*TRIUMF*), W. Falk (*U. Manitoba*), G. Giles, G. Jones, W. Ziegler (*UBC*), G. Lolos (*U. 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 (*U. Alberta*), C.A. Davis (*U. 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 (*U. Alberta*), C.A. Davis (*U. Manitoba*)
196. Measurement of pionic x-rays in  ${}^{23}\text{Na}$ ,  ${}^{24}\text{Mg}$  and  ${}^{27}\text{Al}$  [completed], A. Olin (*TRIUMF-U. Victoria*), J.A. Macdonald, T. Numao (*TRIUMF*), G.A. Beer, G.R. Mason (*U. Victoria*), B. Olaniyi (*U. Ife*), P.R. Poffenberger (*U. 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\* (*UBC*), 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 (*UBC*), J.A. Edgington (*U. London, QMC*), M. Comyn, G. Ludgate (*TRIUMF*), L.P. Robertson (*U. 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 U.*), R.R. Johnson (*TRIUMF-UBC*), B. Barnett, W. Gyles, H. Roser, R. Tacik (*UBC*), D.A. Gill, J.S. Vincent (*TRIUMF*), K. Aniol (*California State U. Los Angeles*), S. Levenson (*Northwestern U.*)
202. Nuclear radii measurements in the  $A \sim 20$  region [completed], T.E. Drake, R. Sobie (*U. Toronto*), A. Altman, M.A. Moinester (*Tel-Aviv U.*), B. Barnett, J. Coopersmith, K.L. Erdman, W. Gyles, R. Tacik (*UBC*), R.R. Johnson (*TRIUMF-UBC*), G.A. Beer (*U. Victoria*), E.W. Blackmore, D. Gill (*TRIUMF*), A. Olin (*TRIUMF-U. Victoria*), S. Martin (*KfA Jülich*), C. Wiedner (*Max Planck Institut*)
203. Inelastic pion scattering on neon isotopes [completed], T.E. Drake, R. Sobie (*U. Toronto*), A. Altman, M.A. Moinester (*Tel-Aviv U.*), B. Barnett, J. Coopersmith, K.L. Erdman, W. Gyles, R. Tacik (*UBC*), 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 U.*)
204. Strong interaction shift and width in pionic  ${}^{22}\text{Ne}$  atoms [completed], G.A. Beer, G.R. Mason (*U. Victoria*), A. Olin (*TRIUMF-U. Victoria*), T.E. Drake, R. Sobie, (*U. Toronto*), B. Olaniyi (*U. Ife*)
205. Tensor analysing power in pion deuterium scattering [complete], L. Dallin, K. Itoh, Y.M. Shin (*U. Saskatchewan*), B. Barnett, K.L. Erdman, W. Gyles, R. Tacik (*UBC*), R.R. Johnson (*TRIUMF-UBC*), E.W. Blackmore, D.R. Gill, G.D. Wait (*TRIUMF*), G. Lolos (*U. Regina*), K. Aniol (*California State U. Los Angeles*), T.E. Drake (*U. 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 (*SFU*), K.P. Jackson (*TRIUMF*), R. Helmer (*U. 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 (*U. Alberta*), P. Kitching (*TRIUMF-U. Alberta*), C.A. Davis (*U. Manitoba*), J. Coopersmith, (*UBC*), R.R. Johnson (*TRIUMF-UBC*), G. Berg, S. Martin (*KfA Jülich*), J. Lisantti (*U. Oregon*), M.A. Moinester (*Tel-Aviv U.*), R. Santo (*Münster U.*)
208. Proton-proton bremsstrahlung [completed], P. Kitching (*TRIUMF-U. Alberta*), P.W. Green, M. Hugi, M. Michaelian, G.C. Neilson, W.C. Olsen, D.M. Sheppard,\* J. Soukup, J. Uegaki, J. Wesick (*U. Alberta*), R. Abegg\*, H. Fearing, L.G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), N. Stevenson (*U. 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 U.*), G.R. Mason (*U. Victoria*), K.S. Kang (*Neung U.*), B. Olaniyi (*U. 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 (*SFU*), R.E.L. Green (*Los Alamos National Lab*), R. Helmer (*U. 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 U. di Trieste*), R. Cherubini (*National Lab of Legnaro-U. di Padova*), D.R. Gill (*TRIUMF*), W. Gyles (*UBC*)
215. Inclusive  $(p, p)$  spectra [completed data taking], R.E. Segel, A. Hassan, S.M. Levenson (*Northwestern U.*), P. Gumplinger, A.W. Stetz, L.W. Swenson (*Oregon State U.*), K.P. Jackson (*TRIUMF*), P.P. Singh (*Indiana U.*), J. Tinsley (*U. 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 (*U. Oregon*), L.W. Swenson (*Oregon State U.*)
217. Low-energy, electromagnetic pion form factors [completed], J.-M. Poutissou (*TRIUMF*), P. Gumplinger, D. Ila, A.W. Stetz (*Oregon State U.*), M.D. Hasinoff (*UBC*), 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 (*U. Regina*), R.R. Johnson (*TRIUMF-UBC*), G. Giles, G. Jones, B. McParland (*UBC*), D. Ottewell, P. Walden (*TRIUMF*), R.D. Bent (*IUCF*), W. Falk (*U. Manitoba*)
219. The chemistry of pionic hydrogen atoms [completed], D. Horváth (*Central Research Inst. for Physics, Budapest*), D.F. Measday, S. Stanislaus (*UBC*), M. Salomon (*TRIUMF*), K. Aniol (*California State U. Los Angeles*)
220. Temperature dependence of the spin exchange cross sections between muonium and alkali metal [completed], D.J. Arseneau, D.G. Fleming, M. Senba (*UBC*), 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 (*U. Manitoba*), H.O. Meyer (*IUCF*), P. Schwandt (*Indiana U.*), K.P. Jackson (*TRIUMF*), H.W. Roser (*UBC*)
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 (*U. Manitoba*), C.F. Perdrisat (*Coll. of William & Mary*), J.M. Cameron (*IUCF*), M.B. Epstein, D.J. Margaziotis (*California State U.*), H. Postma (*Technical U. Delft*), A.W. Stetz (*Oregon State U.*), R. Abegg\* (*TRIUMF*)
224. Inclusive pion scattering from light nuclei [completed], K.G.R. Doss, I. Halpern, M. Khandaker, D.W. Storm (*U. 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 U.*), G. Azuelos, D.R. Gill (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), B.M. Barnett, W. Gyles, H. Roser, R. Tacik (*UBC*), S. Martin (*KfA Jülich*), R. Sobie (*U. Toronto*), K. Aniol (*California State U. Los Angeles*)
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 (*UBC*), K. Aniol (*California State U. Los Angeles*), J. Alster, J. Lichtenstadt, M.A. Moinester (*Tel-Aviv U.*), G. Azuelos, D.R. Gill (*TRIUMF*), S. Martin (*KfA Jülich*), R. Sobie (*U. 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 (*U. 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-U. Victoria*), A. Burnham,\* M. Hasinoff (*UBC*), G. Azuelos, J.A. Macdonald, T. Numao, J.-M. Poutissou, J. Spuller (*TRIUMF*), P. Depommier, R. Poutissou (*U. de Montréal*), M. Blecher, K. Gotow (*VPI and State U.*), M. Dixit, C.K. Hargrove, H. Mes (*National Research Council*), M.A. Moinester (*Tel-Aviv U.*), H. Baer, M. Cooper (*LAMPF*)

230. Muonic molecule formation rates in HD gas [completed], K. Aniol (*California State U. Los Angeles*), F. Entezami, D.F. Measday, C. Virtue (*UBC*), D. Horváth (*Central Research Inst. for Physics, Budapest*), M. Salomon (*TRIUMF*), J. Smith (*U. Surrey*), S.E. Jones (*Idaho National Engineering Lab*), B.C. Robertson (*Queen's U.*)
231. Studies of light pionic atoms [completed], G.A. Beer, G.R. Mason, G.M. Marshall (*U. Victoria*), A. Olin (*TRIUMF-U. Victoria*), J.A. Macdonald (*TRIUMF*), E. Klempt (*Johannes Gutenberg U., Mainz*), C. Wiegand (*Lawrence Berkeley Lab*), K. Wetzel (*U. Portland*), W.C. Sperry (*Central Washington U.*), B.H. Olaniyi (*U. Ife*)
232. Muon Knight shifts in metals [completed], J.H. Brewer, E. Koster, D.Ll. Williams (*UBC*)
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 (*UBC*), R.R. Johnson (*TRIUMF-UBC*), D. Ottewell, P. Walden (*TRIUMF*), G. Lolos (*U. Regina*), W. Falk (*U. 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 (*U. Regina*), G.E. Walker (*Indiana U.*), P. Couvert, G. Giles, G. Jones, B. McParland, W. Ziegler (*UBC*), J. Iqbal, P. Walden (*TRIUMF*), W.R. Falk (*U. Manitoba*)
236.  $(p, p')$  reactions in nuclei [completed], R.E. Azuma, T.E. Drake, J.D. King, S.S.M. Wong, X. Zhu (*U. 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 (*U. 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 (*U. Oregon*), L.W. Swenson (*Oregon State U.*)
239. Muon spin relaxation studies of spin glasses and random spin systems [completed], Y.J. Uemura (*Columbia U.*), J.H. Brewer (*UBC*), K.M. Crowe (*Lawrence Berkeley Lab*), T. Yamazaki (*U. Tokyo*), Y. Miyako, K. Katsumata (*U. Hokkaido*), S. Chikazawa (*Muroran Inst. Tech.*)
241. Temperature dependence of reaction rate constants for muonium addition reactions in liquid phases [completed], K.L. Cheng, R.L. Ganti, Y.C. Jean (*U. Missouri-Kansas City*), D.C. Walker (*UBC*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*)
242. Radiochemical study of the  $(p, \pi^+)$  reaction on bismuth [completed data taking], J. D'Auria, M. Dombisky (*SFU*), T. Ruth (*TRIUMF*), T. Ward (*IUCF*), A. Yavin (*Tel-Aviv U.*)
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 (*U. Regina*), E.G. Auld, P. Couvert, G. Jones, B.J. McParland (*UBC*), 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 (*U. Saskatchewan*), C.Y. Huang (*Los Alamos National Lab*), J.H. Brewer, M. Senba (*UBC*), K. Crowe (*U. 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 U.*), E. Ansaldo (*U. Saskatchewan*), J.H. Brewer, S. Kreitzman, D. Noakes, M. Senba (*UBC*), 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 (*UBC*), A. Altman, M.A. Moinester (*Tel-Aviv U.*), S. Martin (*KfA, Jülich*), C.A. Wiedner (*MPI, Heidelberg*), T. Drake, R. Sobie (*U. Toronto*), T.G. Masterson (*U. 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 (*U. California, Berkeley-LBL*), B. Gobbi (*Northwestern U.*), 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-U. 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. Jérémie, L. Lessard, J.P. Martin, R. Poutissou (*U. de Montréal*), D.A. Bryman (*TRIUMF-U. Victoria*), M. Leitch, I. Navon, P. Schlatter (*U. Victoria*), A. Burnham,\* M.D. Hasinoff (*UBC*), M. Blecher, K. Gotow (*VPI & State U.*), M. Dixit, C.K. Hargrove, H. Mes (*National Research Council*), J. Bailey (*Yale U.*)

250. Charge-exchange coincident with X/gamma-rays in pionic phosphorus [completed data taking], J.M. Bailey (*Yale U.*), G.A. Beer, G.R. Mason (*U. Victoria*), D.F. Measday (*UBC*), A. Olin (*TRIUMF-U. Victoria*), M. Salomon (*TRIUMF*), P.R. Poffenberger (*U. Manitoba*)
251. Coincident optical and x-ray transitions in muonic helium [deferred], J.M. Bailey (*Yale U.*), C.J. Oram (*TRIUMF*), G.M. Marshall (*U. Victoria*), J.D. Silver, D.N. Stacey (*Oxford U.*)
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 (*U. Oregon*), L.W. Swenson (*Oregon State U.*), 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 U. Jerusalem*), D. Gill (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Rozon (*UBC*), J. Lapointe (*U. de Laval*), A. Altman (*Tel-Aviv U.*)
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 U.*), R.R. Johnson (*TRIUMF-UBC*), H. Roser, R. Tacik (*UBC*), D.R. Gill, U. Wienands (*TRIUMF*), K. Aniol (*California State U. Los Angeles*), C.A. Wiedner (*MPI, Heidelberg*), T. Drake, R. Sobie (*U. Toronto*), N. Grion (*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 (*UBC*), M. Salomon, J. Vincent (*TRIUMF*)
258. Radiative decay of the  $\Delta$  resonance [replaced by 537], D.F. Measday, F. Entezami, S. Stanislaus (*UBC*), 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 (*SFU*)
261. Muon spin rotation of paramagnetic solutions [completed], J.A. Bartlett, J.-C. Brodovitch, S.-K. Leung, K.E. Newman, P.W. Percival (*SFU*)
262. Muonium-radical formation mechanism [completed], D.C. Walker (*UBC*), Y. Miyake (*TRIUMF*), R. Ganti, Y.C. Jean (*U. Missouri-Kansas City*), J.M. Stadlbauer\* (*Hood Coll.*), Y. Katsumura (*U. Tokyo*), D. Livesey (*U. New Brunswick*), R. Catterall (*U. Salford*), B.W. Ng (*Winona State U.*)
263. The pion-nucleus interaction [completed], T.E. Drake, R. Schubank, R.J. Sobie (*U. 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 (*U. 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 (*U. Western Ontario*), R.E. Azuma, D. Frekers (*U. Toronto*), J. D'Auria (*SFU*), 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 (*U. Western Ontario*), J.M. D'Auria (*SFU*), 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 (*SFU*), K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Altman (*Tel-Aviv U.*), W.P. Alford, R.L. Helmer (*U. 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 (*U. 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 (*UBC*), A. Altman (*Tel-Aviv U.*), D.A. Gill, U. Wienands (*TRIUMF*), T. Drake, R. Sobie (*U. 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 (*UBC*), A. Altman (*Tel-Aviv U.*), W.J. Briscoe, C.J. Seftor, M.F. Taragin (*George Washington U.*), T.E. Drake (*U. Toronto*), D.R. Gill (*TRIUMF*), J.R. Richardson\* (*TRIUMF-UCLA*), P. Truöl (*U. Zürich*), K. Aniol (*California State U. Los Angeles*)
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 (*U. Melbourne*)
272. Transverse spin flip probabilities in  $^{24}\text{Mg}(\vec{p}, \vec{p}')$  and  $^{48}\text{Ca}(\vec{p}, \vec{p}')$  [completed], O. Häusser\* (*TRIUMF-SFU*), R. Abegg\*, K.P. Jackson (*TRIUMF*), W.P. Alford (*U. Western Ontario*), C.A. Wiedner (*MPI, Heidelberg*), T.E. Drake (*U. Toronto*), J. Lisantti, D. McDaniels, J. Tinsley (*U. Oregon*)

273. Triplet  $\mu^-p$  absorption in  $H_2$  gas [letter of intent], J. Bailey (*Yale U.*), G. Azuelos, C. Oram (*TRIUMF*), J. Brewer, K. Erdman (*UBC*), K. Crowe (*U. California, Berkeley*)
274. Singlet final state interaction in the  $pp \rightarrow pn\pi^+$  reaction [completed], E.G. Auld, P. Couvert, G. Jones, W. Ziegler (*UBC*), W. Falk (*U. Manitoba*), P. Walden (*TRIUMF*), G. Lolos (*U. Regina*)
275. Muons in, and muonium from, vanadium [completed], J. Bailey (*Yale U.*), J. Brewer, J.B. Warren\* (*UBC*), G. Marshall (*U. Victoria*), D. Garner, R. Kiefl, C. Oram (*TRIUMF*), A. Olin (*TRIUMF-U. Victoria*), D. Harshman (*AT&T Laboratories*)
276. Diluted magnetic semiconductors [completed], E.J. Ansaldo (*U. Saskatchewan*), J. Bailey (*Yale U.*), J.H. Brewer, S. Kreitzman, D. Noakes, M. Senba (*UBC*), R. Keitel (*TRIUMF*), K.M. Crowe (*U. California, Berkeley*), J. Furdyna (*Purdue U.*), Y.J. Uemura (*Brookhaven National Lab*), T.L. Estle (*Rice U.*), D. Harshman (*AT&T Laboratories*)
277. The branching ratio of the rare decay  $\pi^0 \rightarrow e^+e^-$  [completed], M.D. Hasinoff, C. Waltham (*UBC*), D.A. Bryman (*TRIUMF-U. Victoria*), E. Clifford (*U. Victoria*), G. Azuelos, T. Numao, J.-M. Poutissou (*TRIUMF*), P. Depommier, H. Jeremie, R. Poutissou (*U. de Montréal*), C.K. Hargrove, H. Mes (*National Research Council*), B. Robertson (*Queen's U.*), T.A. Mulera, V. Perez-Mendez (*Lawrence Berkeley Lab*), M. Blecher (*Virginia Polytechnic Inst. & State U.*), A.W. Stetz (*Oregon State U.*)
278. Inelastic scattering of 30 and 50 MeV  $\pi^+$  projectiles from the  $0_2^+$  state in  $^{12}C$  [completed], L. Buchmann, T.E. Drake, L. Lee, R.J. Sobie (*U. Toronto*), D.R. Gill, B. Jennings (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), N. de Takacsy (*McGill U.*)
279. Non-analog pion single charge exchange total cross section on  $^7Li$  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-U. Victoria*), R.G. Korteling (*SFU*)
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 U.*), O. Häusser\* (*TRIUMF-SFU*), A. Moalem (*Ben-Gurion U.*), W.P. Alford (*U. Western Ontario*), A. Klein (*U. Georgia*)
281. Investigations of pion absorption reactions  $^6Li, ^{12}C(\pi^\pm, X_1)X_2$  [completed], G. Huber, G.J. Lolos, S.I.H. Naqvi, V. Pafilis, Z. Papandreou (*U. Regina*), D. Gill, D. Ottewell, P.L. Walden (*TRIUMF*), E.G. Auld, G. Jones (*UBC*), R.R. Johnson (*TRIUMF-UBC*), X. Aslanoglu (*Florida State U.*)
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 (*U. 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 U.*), D.A. Bryman (*TRIUMF-U. Victoria*), E. Clifford, P. Schlatter (*U. Victoria*), M. Dixit, C.K. Hargrove, H. Mes (*National Research Council*), G. Azuelos, T. Numao, J.-M. Poutissou (*TRIUMF*), P. Depommier (*U. de Montréal*), A. Burnham,\* M.D. Hasinoff, C. Waltham (*UBC*), T. Mulura, V. Perez-Mendez (*Lawrence Berkeley Lab*)
285. Elastic scattering of pions by  $^3,^4He$  for pion energies between 20 and 50 MeV [completed], K.M. Crowe, C.A. Meyer (*U. California, Berkeley*), D.R. Gill, D. Healey, U. Wienands (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv U.*), N. Grion (*INFN Trieste*)
286. Quantum diffusion of muons and muonium [completed], K.M. Crowe (*U. California, Berkeley*), J.H. Brewer, S.R. Kreitzman, M. Senba, D.Ll. Williams (*UBC*), R. Keitel (*TRIUMF*), E.J. Ansaldo (*U. Saskatchewan*), J. Bailey (*Yale U.*), K. Nagamine (*U. Tokyo*), D. Harshman (*AT&T Laboratories*), D.P. Spencer (*U. Chicago Medical Center*)
288. Muonium reaction rates on surfaces [completed], R. Keitel (*TRIUMF*), J.H. Brewer, D.N. Noakes, M. Senba (*Columbia*), K. Nagamine (*U. Tokyo*), E.J. Ansaldo (*U. Saskatchewan*), D.R. Harshman (*AT&T Laboratories*)
289. Studies of positive muon states in alkali halides and other insulators by advanced  $\mu$ SR methods [completed], K. Ishida, Y. Kuno, T. Matsuzaki, Y. Morozumi, K. Nagamine, K. Nishiyama, T. Yamazaki (*U. Tokyo*), J.H. Brewer (*UBC*)
290. Positive muon probing soliton in polyacetylene [completed], K. Ishida, Y. Kuno, T. Matsuzaki, K. Nagamine, H. Shirakawa, T. Yamazaki (*U. Tokyo*), J.H. Brewer (*UBC*)
291.  $\mu$ SR studies on spin dynamics in mixed antiferromagnets with competing anisotropies [completed], I. Ito, E. Torikai (*Ochanomizu U.*), K. Ishida, Y. Kuno, T. Matsuzaki, K. Nagamine, T. Yamazaki (*U. Tokyo*), J.H. Brewer (*UBC*)

292.  $\mu^\pm$ SR of graphite intercalation compounds [active], K. Ishida, T. Kondow, Y. Kuno, T. Matsuzaki, K. Nagamine, T. Yamazaki (*U. Tokyo*), J.H. Brewer (*UBC*)
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 U.*), J. Lisantti, D.K. McDaniels, J. Tinsley (*U. Oregon*), I. Bergqvist (*U. Lund*), E. Rost, J.R. Shepard (*U. Colorado*)
295. Large angle polarization tests – Test of density-dependent and relativistic theories [completed], V. Penumetcha, A. Scott (*U. 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 (*U. Toronto*), M.L. Whiten (*Armstrong Coll., Georgia*), R. Dymarz, U. Kuehner (*McMaster U.*), H.V. von Geramb (*U. 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 (*UBC*)
297. Energetic neutron spectra from  $\mu^-$ -capture in deuteron [completed], T.J. Hallman, Y.K. Lee, L. Madansky, E.K. McIntyre, Jr. (*Johns Hopkins U.*), G.R. Mason (*U. 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 (*U. Alberta*), E.G. Auld, P. Trelle (*UBC*), R. Schubank (*U. Saskatchewan*), R. Henderson (*TRIUMF-U. 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 (*UBC*), P. Walden, S. Yen (*TRIUMF*), G. Lolos (*U. Regina*), W. Falk (*U. 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\* (*U. Alberta*), B. Blankleider, J.M. Cameron (*IUCF*)
301. The reaction  $pp\pi^0$  near threshold [completed], F. Entezami, D.F. Measday, S. Stanislaus (*UBC*), 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 (*U. Toronto*), R. Abegg\*, C.A. Miller, S. Yen (*TRIUMF*), R. Schubank (*U. Saskatchewan*)
304. Muonium-antimuonium conversion [completed], A. Olin (*TRIUMF-U. Victoria*), G.A. Beer, A.C. Janissen, G.R. Mason (*U. Victoria*), Z. Gelbart, G.M. Marshall (*TRIUMF*), J.B. Warren\* (*UBC*), B. Heinrich, K. Myrtle (*SFU*), T. Bowen, P.G. Halverson, K.R. Kendall (*U. Arizona*), C.A. Fry (*U. Rochester*), T.M. Huber, A.R. Kunselman (*U. Wyoming*)
306. Pion transfer in gaseous mixtures [completed], K.A. Aniol, M.B. Epstein, D.J. Margaziotis (*California State U. Los Angeles*), M. Salomon (*TRIUMF*), F. Entezami, D.F. Measday, A.J. Noble, S. Stanislaus, C.J. Virtue (*UBC*), 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 U.*), J.H. Brewer, S.R. Kreitzman, D. Noakes (*UBC*), R. Keitel (*TRIUMF*), E.J. Ansaldò (*U. Saskatchewan*), R.H. Heffner (*LAMPF*), D. Harshman (*AT&T Laboratories*), D.P. Spencer (*U. 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 (*U. Washington*)
311. Nuclear reactions of astrophysical interest with accelerated radioactive beams [deferred], R. Azuma, L. Buchmann, J. King (*U. Toronto*), J. D'Auria (*SFU*), C. Rolfs (*U. Münster*), M. Wiescher (*U. Mainz*), M. Arnould (*U. Libre de Bruxelles*), T. Ward (*IUCF*), C. Barnes (*California Inst. Tech.*), R. Boyd (*Ohio State U.*)
312. Low energy ion scattering using ISOL [deferred], S.R. Morrison, W. Sears (*SFU*)
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 U.*)
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 U.*), J. D'Auria (*SFU*)
316. Collinear laser spectroscopy of radioactive beams [deferred], F. Buchinger and FRL Research Team (*McGill U.*)

317. Spectroscopic studies of nuclear properties [deferred], L.R. Kilius, A.E. Litherland (*U. Toronto*), FRL Research Team (*McGill U.*), M. Pearson (*U. 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 U.*), J. D'Auria (*SFU*), 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 (*U. Oregon*), I. Bergqvist, A. Brockstedt, B. Jakobsson (*U. 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 U.*)
321. Muonium spin rotations in condensed phases methane [deferred], R.L. Ganti, Y.C. Jean (*U. Missouri-Kansas City*), Y. Miyake, K. Venkateswaran, D.C. Walker (*UBC*), J.M. Stadlbauer\* (*Hood Coll.*)
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 (*U. 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 (*UBC*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv U.*), T.E. Drake (*U. 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 (*SFU*), J.R. Shepard (*U. Colorado*), R. Sawafta (*U. Alberta*), A. Moalem (*Ben Gurion U.*), T.E. Drake, D. Frekers (*U. Toronto*), R. Schubank (*U. Saskatchewan*), R. Henderson (*TRIUMF-U. Melbourne*), W.P. Alford (*U. 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\* (*UBC*), J.L. Beveridge, K.R. Kendall, R.F. Kiefl, C.J. Oram (*TRIUMF*), A.S. Rupaal, J.H. Turner\* (*Western Washington U.*)
326. Determination of muon-neutrino mass [inactive], C.Y. Kim (*U. Calgary*), D. Garner, R. Keitel (*TRIUMF*), Y.M. Shin (*U. 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 (*U. di Trieste*), N. Hessey, M. Rozon, P. Trelle (*UBC*), R.R. Johnson (*TRIUMF-UBC*), D. Gill, G. Smith, U. Wienands (*TRIUMF*), A. Altman (*Tel-Aviv U.*)
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. Seviar, P. Trelle (*UBC*), R.R. Johnson (*TRIUMF-UBC*), D.R. Gill, G. Smith (*TRIUMF*), J. Alster, D. Ashery, M. Moinester (*Tel-Aviv U.*), N. Grion (*INFN Trieste*), R. Rui (*U. di Trieste*), G.J. Lolos, Z. Papandreou (*U. Regina*), K. Aniol (*California State U. Los Angeles*), R. Tacik (*U. 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 (*U. Saskatchewan*), D. Gill, B. Jennings, D. Ottewell, G. Wait (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv U.*), T. Drake, D. Frekers (*U. Toronto*), R. Schubank (*U. Saskatchewan*), N. de Takacsy (*McGill U.*)
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 (*SFU*), K. Hicks, S. Yen (*TRIUMF*), A. Moalem (*Ben-Gurion U.*), R. Sawafta (*U. Alberta*), D. Frekers (*U. Toronto*), R. Henderson (*TRIUMF-U. Melbourne*)
331. Spin transfer in the  $\pi\vec{d} \rightarrow \vec{p}p$  reaction [completed], A. Feltham, G. Jones, R. Olszewski, M. Pavan, M. Seviar, V. Sossi, R.P. Trelle, D. Vetterli, P. Weber (*UBC*), D.R. Gill, D. Healey, D. Ottewell, G. Smith, G. Wait, P. Walden (*TRIUMF*), G. Lolos, E. Mathie, Z. Papandreou, M. Yeomans (*U. Regina*), R. Rui (*INFN Trieste*), M. Moinester (*Tel-Aviv U.*)
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 (*U. Manitoba*), G.A. Moss, G. Roy (*U. Alberta*), L.G. Greeniaus (*TRIUMF*)
333. A search for the high frequency parts of the giant resonances [inactive], A. Moalem (*Ben-Gurion U.*), O. Häusser\* (*TRIUMF-SFU*), A. Celler (*SFU*), K. Hicks, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), K. Lin, J. Lisantti, D. McDaniels (*U. Oregon*), R. Sawafta (*U. Alberta*), W.P. Alford (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), M. Moinester (*Tel-Aviv U.*), I. Bergqvist (*U. Lund*)
335. Energy dependence of isoscalar and isovector  $1^{+}$  excitations in  $^{28}\text{Si}(\vec{p}, p')$  [completed], O. Häusser\* (*TRIUMF-SFU*), A. Celler (*SFU*), K. Hicks, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Moalem (*Ben-Gurion U.*), R. Sawafta (*U. Alberta*), W.P. Alford, R. Helmer (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), C. Günther (*U. Bonn*), R. Dymarz (*McMaster U.*)

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 U.*), M. Haden, G. Jones, F. Tervisidis, R.P. Trelle (*UBC*), R.R. Johnson (*TRIUMF-UBC*), G. Lolos, E.L. Mathie (*U. 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 (*U. Toronto*), R. Abegg\*, K.P. Jackson, C.A. Miller (*TRIUMF*), A. Scott (*U. Georgia*), M. Whiten (*Armstrong Coll.*), H. von Geramb (*U. 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 (*UBC*), 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 (*UBC*), 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 U.*), D. Boal, J. D'Auria, R.G. Korteling (*SFU*), R. Helmer (*U. Western Ontario*)
342. Dynamics of muon-produced soliton in polyacetylene [active], Y. Kuno, T. Matsuzaki, K. Nagamine, K. Nishiyama, T. Yamazaki (*U. Tokyo*), K. Ishida (*Inst. Phys. and Chem. Research*), H. Shirakawa (*U. Tsukuba*), J. Brewer (*UBC*), 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 (*U. 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 U.*), W. Alford (*U. 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 (*UBC*), E. Ansaldo (*U. Saskatchewan*), E. Bucher (*U. Konstanz*), J. Kossler (*Coll. of William & 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. Kretzman, D.R. Noakes, M. Senba (*UBC*), B. Hitti, J. Kempton, W.J. Kossler (*Coll. of William & Mary*), R. Keitel, R. Kiefl (*TRIUMF*), E.J. Ansaldo (*U. Saskatchewan*), Y. Oonuki, T. Komatsubara (*Tsukuba U.*), E. Bucher (*U. Konstanz*)
347. Spin dynamics in amorphous rare earth intermetallics [inactive], L. Asch, G.M. Kalvius, F.J. Litterst (*Tech. U. Munich*), J.H. Brewer, D.R. Noakes (*UBC*), B. Boucher (*CEN Saclay*), J. Chappert, A. Yaouanc (*CEN Grenoble*), O. Hartmann, R. Wäppling (*U. Uppsala*), K. Nagamine, K. Nishiyama, T. Yamazaki (*U. Tokyo*), E.J. Ansaldo (*U. Saskatchewan*), R. Keitel (*TRIUMF*)
349. The diamagnetic  $\mu^+$  state in alkali halide and related metal halide crystals [completed], E.J. Ansaldo (*U. Saskatchewan*), J. Brewer, B. Forster\*, S. Kretzman, G. Luke, D. Noakes, M. Senba, D.L. Williams (*UBC*), R. Keitel, R. Kiefl (*TRIUMF*), K. Nagamine (*U. 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. Piasetzky (*Tel-Aviv U.*), N. Hessey, F.M. Rozon, M. Sevier, R.P. Trelle (*UBC*), 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. Piasetzky (*Tel-Aviv U.*), N. Hessey, M. Sevier, F.M. Rozon, R.P. Trelle (*UBC*), 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 (*U. Alberta*), R. Abegg\*, G. Greeniaus, D.A. Hutcheon, C.A. Miller (*TRIUMF*), J.M. Cameron (*IUCF*), N.E. Davison (*U. 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 (*U. Toronto*), R. Abegg\*, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Schubank (*U. 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 (*U. Toronto*), R. Schubank (*U. Saskatchewan*)



356. Y-scaling in inclusive proton scattering from  ${}^9\text{Be}$  and  ${}^{12}\text{C}$  at 300 MeV [active], A. Moalem (*Ben-Gurion U.*), O. Häusser\* (*SFU-TRIUMF*), R. Abegg\*, K. Hicks, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Sawafta (*U. Alberta*), R. Henderson (*TRIUMF-U. Melbourne*), W.P. Alford (*U. Western Ontario*), A. Altman (*Tel-Aviv U.*), S. Gurvitz (*Weizmann Inst. Science*), D. Frekers (*U. Toronto*)
357. Measurement of  $B^+(\text{GT})$  for  ${}^{26}\text{Mg}$  [completed data-taking], W.P. Alford, A. Celler (*U. Western Ontario*), R.L. Helmer, R. Henderson, M. Vetterli, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), A. Krumins (*U. Toronto*), D. Miller (*IUCF*), B. Spicer (*U. Melbourne*), A. Yavin (*Tel Aviv U.*)
358. Resolved nuclear hyperfine structure of muonium-substituted free radicals using level crossing spectroscopy [completed], R.F. Kieff, R. Keitel (*TRIUMF*), J.H. Brewer, S. Kreitzman, G. Luke, D.R. Noakes, M. Senba (*UBC*), E.J. Ansaldo (*U. Saskatchewan*), A. Ito, Y. Morozumi, K. Nagamine, K. Nishiyama (*U. Tokyo*), P.W. Percival (*SFU*), D. Harshman (*AT&T Laboratories*)
359. The spin response of ( $fp$ ) shell nuclei [inactive], C. Glashauser (*Rutgers U.*), O. Häusser\* (*TRIUMF-SFU*), S.K. Nanda (*U. Minnesota*), K.W. Jones (*Los Alamos National Lab*), A. Moalem (*Ben-Gurion U.*), M. Vetterli (*SFU*), R. Abegg\*, K. Hicks, K.P. Jackson, C.A. Miller (*TRIUMF*), W.P. Alford (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), J. Lisantti (*U. Oregon*)
360. Polarization transfer in  $\pi d$  elastic scattering [active], K. Itoh, R. Schubank, Y.M. Shin, N. Stevenson (*U. Saskatchewan*), P. Delheij, D. Gill, D. Healey, D. Ottewell, G. Wait (*TRIUMF*), T. Drake, D. Frekers (*U. Toronto*)
361. Muonium in water [completed], J. Bartlett, J.-C. Brodovitch, M. Harston, S.-K. Leung, P.W. Percival (*SFU*), K. Newman (*U. de Sherbrooke*)
362. High pressure muon spin resonance in liquids [completed], J. Bartlett, J.-C. Brodovitch, M. Harston, S.-K. Leung, P.W. Percival (*SFU*), K. Newman (*U. de Sherbrooke*)
364. Photon asymmetry measurements in radiative muon capture in heavy nuclei [completed data-taking], T. Gorringer, M. Hasinoff, A. Pouladdej, C. Virtue, C. Waltham (*UBC*), G. Azuelos (*TRIUMF*), B. Robertson (*Queen's U.*), D. Horváth (*Central Research Inst. for Physics, Budapest*)
365. Search for tetra-neutrons using the  ${}^4\text{He}(\pi^-, \pi^+)^4n$  reaction [completed], D. Armstrong, T. Gorringer, M. Hasinoff, C. Waltham, J.B. Warren\* (*UBC*), G. Azuelos, J.A. Macdonald, T. Numao, J.-M. Poutissou (*TRIUMF*), D. Bryman (*TRIUMF-U. Victoria*), R. Poutissou (*U. 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 (*UBC*), R. Bent (*IUCF*), W.R. Falk (*U. Manitoba*), G. Lolos (*U. Regina*)
367. Resolved nuclear hyperfine structure of anomalous muonium in semiconductors [completed], R.F. Kieff, R. Keitel (*TRIUMF*), E.J. Ansaldo (*U. Saskatchewan*), J.H. Brewer, S. Kreitzman, G. Luke, D.R. Noakes (*UBC*), T.L. Estle (*Rice U.*), D.P. Spencer (*U. Chicago Medical Center*), T. Matsuzaki, K. Nishiyama (*U. 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 (*U. Alberta*), C.A. Davis, W.T.H. van Oers (*U. 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 (*U. 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 (*U. Manitoba*), C.A. Davis (*TRIUMF-U. Manitoba*) E. Korkmaz (*U. 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 (*U. Oregon*), C. Glover, L.W. Swenson, Y. Xiao (*Oregon State U.*), F. Bertrand, B. Burks, D. Horen (*Oak Ridge National Lab*), I. Bergqvist (*U. Lund*), K. Hicks (*TRIUMF*)
371. Muonium in micelles [completed], K. Venkateswaren, D.C. Walker (*UBC*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*), R. Ganti, Y.C. Jean (*U. 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 (*U. Manitoba*), D.A. Hutcheon, C.A. Miller (*TRIUMF*), D.L. Adams, G.S. Mutchler (*Rice U.*), M.G. Bachman, P.J. Riley (*U. Texas, Austin*), C.A. Davis (*U. Manitoba-TRIUMF*), M.B. Epstein, D.J. Margaziotis (*California State U., Los Angeles*), P.W. Green, E. Korkmaz (*U. Alberta*), B.W. Mayes, L. Pinsky, Y. Tzamouranis (*U. Houston*)
373. Low energy pion scattering and pionic atom anomaly [inactive], D.R. Gill, G.R. Smith, U. Wienands (*TRIUMF*), A. Olin (*TRIUMF-U. Victoria*), R.M. Rozon, M. Sevier, R.P. Trelle (*UBC*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv U.*), T. Anderl (*KfA Jülich*), N. Grion (*INFN Trieste*), R. Rui (*U. 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. Sevier, R.P. Trelle (*UBC*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv U.*), T. Anderl (*KfA Jülich*), N. Grion (*INFN Trieste*), R. Rui (*U. 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 (*U. Regina*), D. Healey, D. Ottewell, G.R. Smith, G. Wait (*TRIUMF*), G. Jones, M. Sevier, R.P. Trelle, P. Weber (*UBC*), D. Humphrey (*Western Kentucky U.*), H. Garcilazo (*U. 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 (*U. Melbourne*), R. Henderson (*TRIUMF-U. Melbourne*), M. Moinester, A.I. Yavin (*Tel-Aviv U.*), W.P. Alford, A. Celler (*U. Western Ontario*), O. Häusser\* (*TRIUMF-SFU*), T.E. Drake, J.D. King (*U. Toronto*), K. Hicks (*Ohio U.*)
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 (*UBC*), R.R. Johnson (*TRIUMF-UBC*), A. Altman (*Tel-Aviv U.*), J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, J.L. Ullmann (*U. 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 (*U. Western Ontario*), D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), K. Hicks (*Ohio U.*), B.A. Brown (*Michigan State U.*), C.D. Zafiratos (*U. 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 (*U. Western Ontario*), J. Watson (*Kent State U.*), C.D. Zafiratos (*U. Colorado*), D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), K. Hicks (*Ohio U.*), B.A. Brown (*Michigan State U.*), R. Henderson (*TRIUMF-U. Melbourne*)
381. Measurement of spin observables using the  $(p, p'\gamma)$  reaction [completed], K. Hicks (*Ohio U.*), R. Abegg\*, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), A. Celler (*U. Western Ontario*), R. Ristinen, J. Shepard, J. Ullmann (*U. Colorado*), C. Glover, N. Hill (*Oak Ridge National Lab*), G. Igo (*UCLA*), R. Jeppesen, N. King, G. Morgan (*Los Alamos National Lab*), M. Kovash (*U. Kentucky*), R. Henderson (*TRIUMF-U. 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 (*SFU*), R. Abegg\*, K.P. Jackson, C.A. Miller (*TRIUMF*), R.S. Henderson (*TRIUMF-U. Melbourne*), R. Sawafta (*U. Alberta*), W.P. Alford, A. Celler (*U. Western Ontario*), K. Hicks (*Ohio U.*), C. Glover, J. Lisantti (*Oak Ridge National Lab*), D.K. McDaniels (*U. Oregon*), L.W. Swenson (*Oregon State U.*)
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 (*SFU*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), K. Hicks (*Ohio U.*), 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 (*U. Western Ontario*), R.E. Azuma, L. Buchmann, C. Campbell (*U. Toronto*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), B. Spicer (*U. Melbourne*), R. Henderson (*TRIUMF-U. 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 (*UBC*), D. Garner (*TRIUMF*)
386. Electron-muon drag in conductors [completed], K.M. Crowe, A.M. Portis (*U. California, Berkeley*), E.J. Ansaldo (*U. Saskatchewan*), J.H. Brewer, S.R. Kreitzman (*UBC*), R. Keitel (*TRIUMF*)
387. Measure of Birks factor in TMP [completed], A. Astbury (*TRIUMF-U. Victoria*), M. Fincke-Keeler, R. Keeler, G.R. Mason, L. Robertson (*U. Victoria*), D. Schinzel (*CERN*), A. Gonidec (*LAPP, Annecy*), C. Oram (*TRIUMF*)
388. Muon spin rotation of paramagnetic solution [completed], K. Newman (*U. de Sherbrooke*), J. Bartlett, J.-C. Brodovitch, M. Harston, S.-K. Leung, P. Percival (*SFU*)
389. Total cross-section measurements [completed], T.E. Drake, A. Galindo-Uribarri, S. Juniper (*U. Toronto*), D. Frekers (*TRIUMF*), R. Schubank (*U. 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 (*U. Toronto*), R. Abegg\*, D. Frekers, D.A. Hutcheon, J. Iqbal, C.A. Miller, S. Yen (*TRIUMF*), C.J. Horowitz (*Indiana U.*)

391. Muon spin rotation studies of supported metal catalysts [completed], R.F. Marzke (*Arizona State U.*), J.H. Brewer, D. Noakes (*UBC*), E. Ansaldo (*U. 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 (*U. Saskatchewan*), D. Frekers, D. Gill, D. Ottewell, G. Wait (*TRIUMF*), T.E. Drake (*U. 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 (*U. Colorado*), D.R. Gill, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), R. Olszewski, M. Seviar, R.P. Trelle (*UBC*), E.L. Mathie (*U. Regina*)
395. Search for a dibaryon in the reaction  $d(\pi^-, \pi^+)X$  [deferred], R. Olszewski, M. Seviar, R.P. Trelle (*UBC*), R.R. Johnson (*TRIUMF-UBC*), D.R. Gill, G.R. Smith (*TRIUMF*), D. Ashery, E. Piasezky (*Tel-Aviv U.*), N. Grión (*INFN Trieste*), R. Rui (*U. di Trieste*), J. Ernst (*U. Bonn*), T. Anderl (*KfA Jülich*)
396. Muonium chemical reactivities – Viscosity dependence [completed], R.L. Ganti, Y.C. Jean (*U. Missouri-Kansas City*), K. Venkateswaran, D.C. Walker (*UBC*)
397. Quasielastic scattering from  $^{12}\text{C}$  and  $^4\text{He}$  [inactive], C. Chan, T.E. Drake (*U. Toronto*), R. Abegg\*, D. Frekers, D.A. Hutcheon, M.J. Iqbal (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), C.J. Horowitz, E. Stephenson (*Indiana U.*), K. Hicks (*Ohio U.*)
398. MuLRC spectroscopy of free radicals [completed], J.A. Bartlett, J.-C. Brodovitch, S.K. Leung, P.W. Percival, S. Sun-Mack, D. Yu (*SFU*), D.M. Garner, R.F. Kiefl (*TRIUMF*), G.M. Luke, K. Venkateswaran (*UBC*), 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 (*U. Colorado*), D.R. Gill, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), J.T. Brack, R. Olszewski, M. Seviar, R.P. Trelle (*UBC*), E.L. Mathie (*U. Regina*)
400. The Lamb shift and hyperfine structure splitting in muonic atoms [completed data-taking], G.W.F. Drake, E.E. Habib, A. Wijngaarden (*U. Windsor*), C.D.P. Levy, P. Schmor (*TRIUMF*), J.A. Cameron (*McMaster U.*), R. Schubank (*U. Saskatchewan*)
401. Measure of the neutron efficiency of organic scintillators in the energy range 50–350 MeV [completed data-taking], N. Grión (*INFN Trieste*), N. Colonna, G. d’Erasmus, M. Fiore (*U. di Bari*), L. Fiore, G. Guarino, A. Pantaleo, V. Paticchio (*INFN-Bari*), A. Bracco (*U. di Milano*), R. Rui (*U. di Trieste*)
402. Hyperfine structure of muon and muonium defect centres in magnetically ordered fluorides [inactive], R.F. Kiefl (*TRIUMF*), Y.J. Uemura (*Columbia U.*), J.H. Brewer, S. Kreitzman, G.M. Luke, D.R. Noakes (*UBC*), E.J. Ansaldo (*U. Saskatchewan*), A. Portis (*U. 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 (*U. Regina*), G. Jones (*UBC*), D. Ottewell, P.L. Walden (*TRIUMF*), X. Aslanoglou (*Ohio U.*), G. Huber (*Indiana U.*)
404. Elastic pion scattering at 50 and 65 MeV [inactive], E. Friedman (*Hebrew U., Jerusalem*), D. Gill (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, O. Meirav, C. Ponting (*UBC*)
405. Nuclear wobble [inactive], R.E. Azuma, T.E. Drake, J. King (*U. Toronto*), R.S. Schubank (*U. Saskatchewan*), R. Abegg\*, D. Frekers, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Celler (*U. Western Ontario*), D. Bohle, A. Richter (*U. Darmstadt*), G. Gaul (*U. Muenster*)
407. An initial study of the  $^{16}\text{O}(p, n\pi^+)$  reaction at 350 MeV [inactive], K. Hicks (*Ohio U.*), D. Frekers, B. Jennings, C.A. Miller, G.R. Smith, P. Walden, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), E.D. Cooper (*McGill U.*), J. Shepard, C. Zafaratos (*U. Colorado*), W.P. Alford (*U. Western Ontario*), W.R. Falk (*U. 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-U. Alberta*), M. Ahmad, W.J. McDonald, W.C. Olsen (*U. Alberta*), J.W. Watson (*Kent State U.*), K. Hicks (*Ohio U.*)
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 (*SFU*), 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 U.*), B. Spicer (*U. Melbourne*), R. Henderson (*TRIUMF-U. Melbourne*), W.P. Alford, A. Celler (*U. 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 U.*), M.J. Iqbal, P.L. Walden, S. Yen (*TRIUMF*), E.G. Auld, F. Duncan (*UBC*), G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*U. Regina*), W.R. Falk (*U. Manitoba*), K. Hicks (*Ohio U.*), G. Huber (*Indiana U.*)

413. Cross sections and analyzing powers for the  ${}^3\text{He}(\bar{p}, \pi^+){}^4\text{He}$  reaction in the energy range from 250 to 515 MeV [completed], J.R. Campbell, W.R. Falk, K.M. Furutani, H. Guan (*U. Manitoba*), P. Walden, S. Yen (*TRIUMF*), E.G. Auld, F.A. Duncan (*UBC*), G.J. Lolos (*U. Regina*), R.D. Bent (*IUCF*), G.M. Huber (*IUCF-U. Regina*), E. Korkmaz (*U. Alberta*), A. Trudel (*SFU*), A. Celler (*U. 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. Sevier, V. Sossi, P. Trelle (*UBC*), D.R. Gill, D.F. Ottewell, G.R. Smith (*TRIUMF*), Z. Wu (*IHEP Acad. Sinica Beijing*), J. Ernst (*U. Bonn*), N. Grion (*INFN Trieste*), R. Rui (*U. 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 (*UBC*), K. Hicks (*Ohio U.*)
416. Neutron knockout with SASP [inactive], R. Abegg\*, C.A. Miller (*TRIUMF*), P. Kitching (*TRIUMF-U. Alberta*), M. Ahmad, W.J. McDonald (*U. Alberta*), J.W. Watson (*Kent State U.*)
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 (*UBC*), W.R. Falk (*U. Manitoba*), G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*U. Regina*), R.D. Bent, G. Huber (*Indiana U.*), K. Hicks (*Ohio U.*)
418. A measurement of the  $\Delta$ -isobar contribution to pion production from proton-nuclear interactions [deferred], E.G. Auld, F. Duncan (*UBC*), P. Walden, S. Yen (*TRIUMF*), W.R. Falk (*U. Manitoba*), G.J. Lolos, E.L. Mathie (*U. Regina*), R.D. Bent (*Indiana U.*)
419. Nucleon effective polarization in Ca, Zr and Pb [inactive], W.J. McDonald, W.C. Olsen, D.M. Sheppard\* (*U. Alberta*), P. Kitching (*TRIUMF-U. 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 (*UBC*), D.M. Garner (*TRIUMF*)
421. Research and development studies with TISOL [active], J.M. D'Auria, M. Dombisky (*SFU*), R. Azuma, L. Buchmann, J. King (*U. Toronto*), J. Crawford, J.K.P. Lee, R.B. Moore (*McGill U.*), 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 (*U. 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 (*UBC*), W.R. Falk (*U. Manitoba*), G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*U. Regina*), R.D. Bent, G. Huber (*Indiana U.*), K. Hicks (*Ohio U.*)
425. An initial study of the  $(p, n\pi^+)$  reaction [completed], K. Hicks (*Ohio U.*), D. Frekers, P. Green, B. Jennings, P. Walden, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), A. Trudel, M. Vetterli (*SFU*), W.P. Alford (*U. Western Ontario*), M. Moinester (*Tel-Aviv U.*), W.R. Falk (*U. Manitoba*), C. Zafaratos (*U. Colorado*), R. Jeppesen, N. King (*Los Alamos National Lab*), E. Cooper (*McGill U.*)
428. Nuclear wobble (part II) [inactive], R.E. Azuma, C. Chan, T.E. Drake, J. King (*U. Toronto*), R. Abegg\*, D. Frekers, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), A. Celler (*U. Western Ontario*), D. Bohle, A. Richter (*U. Darmstadt*), G. Gaul (*U. Münster*)
430. Spin excitations in  ${}^{208}\text{Pb}$  [completed data-taking], R. Abegg\*, C.A. Miller, S. Yen (*TRIUMF*), R.W. Ferguson, C. Glashauser, A. Green (*Rutgers U.*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), R. Henderson (*TRIUMF-U. Melbourne*), K. Hicks (*Ohio U.*), F.T. Baker (*U. Georgia*), R. Jeppesen, K.W. Jones (*Los Alamos National Lab*), J. Lisantti (*Oak Ridge National Lab*)
431. Quasielastic spin response for  ${}^{54}\text{Fe}(\bar{p}, \bar{p}')$  at 290 MeV [completed], O. Häusser\* (*TRIUMF-SFU*), K. Lin, M.C. Vetterli (*SFU*), R. Abegg\*, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Henderson (*TRIUMF-U. Melbourne*), K. Hicks (*Ohio U.*), R.G. Jeppesen (*Los Alamos National Lab*), J. Lisantti (*Oak Ridge National Lab*), R. Ferguson, G. Glashauser (*Rutgers U.*), W.P. Alford, A. Celler (*U. Western Ontario*), A. Yavin (*Tel-Aviv U.*), J. Watson (*Kent State U.*)
432. Polarization transfer in inelastic proton scattering from  ${}^{16}\text{O}$  [completed], O. Häusser\* (*TRIUMF-SFU*), B. Larson, J. Mildenerger, M. Vetterli (*SFU*), R. Abegg\*, D. Frekers, R.L. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), R. Jeppesen (*Los Alamos National Lab*), R. Schubank (*U. Saskatchewan*), K. Hicks (*Ohio U.*) R. Henderson (*TRIUMF-U. Melbourne*), C. Olmer, E.G. Stephenson (*IUCF*), W.P. Alford, A. Celler (*U. 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 (*U. Alberta*), W.P. Alford (*U. Western Ontario*), J.M. Cameron (*IUCF*), I. van Heerden (*U. Western Cape, S.A.*), J.W. Watson (*Kent State U.*), 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 U.*), S. Long, B. Spicer (*U. Melbourne*), R. Henderson (*TRIUMF-U. Melbourne*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Pourang, J. Watson (*Kent State U.*), 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 (*SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Jeppesen (*Los Alamos National Lab*), W.C. Olsen (*U. Alberta*), R. Henderson (*U. Melbourne-TRIUMF*), J. Watson (*Kent State U.*)
436. Isovector spin-dipole giant resonance in (*sd*) shell nuclei [completed data-taking], W.P. Alford, A. Celler (*U. Western Ontario*), R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), R. Henderson (*TRIUMF-U. Melbourne*), M. Moinester, A. Yavin (*Tel-Aviv U.*), K. Hicks (*Ohio U.*), R. Jeppesen (*Los Alamos National Lab*), J. Watson (*Kent State U.*)
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 (*U. Western Ontario*), R. Helmer, R. Abegg\*, D. Frekers, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), R. Henderson (*TRIUMF-U. Melbourne*), M. Moinester, A. Yavin (*Tel-Aviv U.*), K. Hicks (*Ohio U.*), J. Watson (*Kent State U.*), 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 (*SFU*), D. Frekers, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), A. Celler (*U. Western Ontario*), R. Jeppesen (*Los Alamos National Lab*), G. Fuller (*Lawrence Livermore National Lab*), K. Hicks (*Ohio U.*)
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 (*U. Western Ontario*), A.I. Yavin (*Tel-Aviv U.*), O. Häusser\* (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*SFU*), R.E. Azuma (*U. Toronto*), R. Henderson (*U. 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 U. Los Angeles*), D.F. Measday, A.J. Noble, S. Stanislaus (*UBC*), B. Robertson (*Queen's U.*), D. Horváth (*Central Research Inst. for Physics, Budapest*), S.E. Jones (*Brigham Young U.*), A. Anderson (*Idaho Research Software and Idaho State U.*)
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 (*U. Colorado*), R.R. Johnson (*TRIUMF-UBC*), G. Jones, R. Olszewski, M.E. Sevier, R.P. Trelle (*UBC*), E.L. Mathie (*U. 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 & U. 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 (*UBC*), E. Oset, M.J. Vicente-Vacas (*U. 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 & U. 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 (*UBC*), E. Oset, M.J. Vicente-Vacas (*U. 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 (*UBC*), D.R. Gill, G. Smith (*TRIUMF*), N. Grion (*INFN Trieste*), R. Rui (*U. di Trieste*), C.A. Wiedner (*MPI, Heidelberg*), Z. Wu (*UBC/IHEP*)
445. Polarization measurement in the  $^3\text{He}(\pi^+, \bar{p}p)p$  reaction [completed data-taking], H. Aclander, A. Altman, D. Ashery, M.A. Moinester, S. May-Tal Beck, S. Ram, D. Trumer (*Tel-Aviv U.*), G. Jones, M. Pavan, A. Feltham (*UBC*), A. Rahav (*SFU*), J. Niskanen (*U. Helsinki*)
446. Pion-proton bremsstrahlung [completed data-taking], F. Farzanpay, P. Fuchs, A.W. Stetz, L.W. Swenson (*Oregon State U.*), P. Kitching (*U. Alberta-TRIUMF*), D. Mack, W.C. Olsen (*U. Alberta*), D. Ottewell, G.R. Smith, Zhang Nai-sen (*TRIUMF*), N. Stevenson (*U. Saskatchewan*), R. Henderson (*U. Melbourne-TRIUMF*)

447. LCR of Mu-radicals in micelles [completed], M.V. Barnabas, K. Venkateswaran, D.C. Walker (*UBC*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*), 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 U.*), R. Keitel, R.F. Kiefl (*TRIUMF*), J.H. Brewer, S.R. Kreitzman, D.R. Noakes (*UBC*), E.J. Ansaldo (*U. Saskatchewan*), K.M. Crowe, A.M. Portis (*U. California, Berkeley*), V. Jaccarino (*U. 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.Ll. Williams (*UBC*), E. Ansaldo (*U. Saskatchewan*), T. Estle (*Rice U.*), R. Kiefl (*TRIUMF*)
450.  $\mu$ SR studies of sub- and supercritical fluids [completed], K.E. Newman (*U. de Sherbrooke*), D.J. Arseneau, D.G. Fleming, A.C. Gonzalez, J.R. Kempton, J. Pan, I.D. Reid, M. Senba (*UBC*), J.C. Brodovitch, P.W. Percival (*SFU*)
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 (*UBC*), P. Depommier, B. Doyle, G. Jonkmans, R. Poutissou (*U. de Montréal*), D.S. Armstrong, M. Blecher (*Virginia Polytechnic Inst. & SU*), B. Robertson (*Queen's U.*), W. Bertl (*PSI*), C-Q. Chen (*IHEP, Beijing*), T. von Egidy (*Tech. U. Munich*), S.C. McDonald, M. Munro, G.N. Taylor (*U. Melbourne*), T. Gorringer (*U. Kentucky*), A. Larabee (*Buena Vista Coll.*)
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 (*U. Victoria*), J.H. Brewer, B.M. Forster\*, R. Jacot-Guillarmod, W. Hardy (*UBC*), J.M. Bailey (*U. Liverpool*), T.M. Huber (*Gustavus Adolphus Coll.*), A.R. Kunselman (*U. 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 (*U. Tokyo*), K. Ishida, T. Matsuzaki (*RIKEN*), Y. Kuno (*UBC*), S.E. Jones (*Brigham Young U.*), 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. Tech.*), F. Fujimoto, K. Komaki, T. Matsuzaki, K. Nagamine, K. Nishiyama, A. Otuka (*U. 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 (*U. 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 (*U. Tokyo*)
458. Hyperfine phenomena probed by  $\mu^-$ SR [deferred], R. Kadono, Y. Miyake, K. Nagamine, K. Nishiyama (*U. Tokyo*), M. Motokawa (*Kobe U.*)
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 (*U. Toronto*), R. Abegg\*, L. Buchmann, D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), E. Rost (*U. 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 U.*), R.R. Johnson (*TRIUMF-UBC*), F. Duncan, R. Olszewski, C. Ponting, M. Sevi $\bar{o}$ r, P. Trelle (*UBC*), 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 U.*), D.G. Fleming, (*UBC*), M. Senba (*TRIUMF-UBC*), J.C. Brodovitch, P.W. Percival (*SFU*)
462. Quasi-elastic scattering from  $^{16}\text{O}$ ,  $^{12}\text{C}$  and  $^4\text{He}$  [completed data-taking], C. Chan, T. Drake, L. Lee (*U. Toronto*), R. Abegg\*, D. Frekers, D. Hutcheon, J. Iqbal, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), K. Hicks (*Ohio U.*), 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, U. Tokyo*), J.H. Brewer, K. Chow, S.R. Kreitzman, T.M. Riseman (*UBC*), J.W. Schneider (*TRIUMF*), C. Niedermayer (*UBC-U. Konstanz*)
464. Low frequency excitations in disordered magnets [inactive], S.A. Dodds (*Rice U.*), J.H. Brewer (*UBC*), E.J. Ansaldo (*U. 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 (*U. Alberta*), G.A. Moss (*Science World*), I.J. van Heerden (*U. 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 (*SFU*), R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson (*TRIUMF*), W.P. Alford, A. Celler (*U. Western Ontario*), B. Spicer (*U. Melbourne*), R. Henderson (*TRIUMF-U. Melbourne*), K. Hicks (*Ohio U.*), 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 (*UBC*), R. Kiefl (*TRIUMF*), G. Aeppli, B. Batlogg, D.R. Harshman (*AT&T Bell Labs*), E.J. Ansaldo (*U. Saskatchewan*), S. Dodds (*Rice U.*), C.Y. Huang (*Lockheed*), W.J. Kossler (*Coll. of William & Mary*), T. Yamazaki (*U. Tokyo*), N. Nishida (*Tokyo Inst. Tech.*), H. Yasuoka (*ISSP, Tokyo*), A.M. Portis (*U. California, Berkeley*), Y.J. Uemura (*Columbia U.*), 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 U.*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*SFU-TRIUMF*), A. Trudel (*SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Henderson (*TRIUMF-U. 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 (*U. Colorado*), P.A. Amaudruz, J.T. Brack, D.F. Otewell, G.R. Smith (*TRIUMF*), M. Kermani, M. Pavan, D. Vetterli (*UBC*), E. Gibson (*California State U., Sacramento*), J. Jaki, M. Metzler (*U. Karlsruhe*)
472. Measurement of  $B^+$ (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 (*SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), W.C. Olsen (*U. Alberta*), R. Henderson (*TRIUMF-U. 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-U. Alberta*), M. Ahmad, W.J. McDonald, Y. Ye (*U. Alberta*), R. Schubank (*U. Saskatchewan*), J.W. Watson (*Kent State U.*), K. Hicks (*Ohio U.*), N. Chant (*U. Maryland*)
474. Orbital-spin interference from GT-M1 comparisons in  $(sd)$  shell nuclei [completed data-taking], O. Häusser\* (*TRIUMF-SFU*), R. Henderson (*TRIUMF-U. Melbourne*), R. Helmer, K.P. Jackson (*TRIUMF*), B. Larsen, B. Pointon, A. Trudel, M. Vetterli (*SFU*), W.P. Alford (*U. Western Ontario*), K. Hicks (*Ohio U.*), R. Jeppesen (*Los Alamos National Lab*), A. Richter (*T.H. Darmstadt*)
475. Quasielastic analyzing powers using the  $(p, n)$  reaction [completed], K. Hicks (*Ohio U.*), D. Frekers, R. Helmer, J. Iqbal, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), A. Trudel, M. Vetterli (*SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), R. Jeppesen (*Los Alamos National Lab*)
476. Nuclear spin response using the  $(\bar{p}, p'\gamma)$  reaction [completed data-taking], K. Hicks (*Ohio U.*), L. Armendarez, M. Kovash, M.A. Pickar (*U. Kentucky*), A. Trudel, M. Vetterli (*SFU*), R. Henderson (*TRIUMF-U. Melbourne*), N.S.P. King (*Los Alamos National Lab*), N.W. Hill (*Oak Ridge National Lab*), J. Shepard (*U. 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 U.*), E.J. Ansaldo (*U. Saskatchewan*), K. Chow, T. Riseman (*UBC*), R.C. DuVarney (*Emory U.*), R. Kadono (*KEK*), S. Kreitzman, J.W. Schneider, C. Zhang (*TRIUMF*), R.L. Lichti (*Texas Tech. U.*), C. Schwab (*U. 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 (*U. Toronto*), R. Schubank (*U. Saskatchewan*), P. Trelle (*U. 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 (*U. Oregon*), X.Y. Chen, F. Farzanpay, L.W. Swenson (*Oregon State U.*), K. Hicks (*Ohio U.*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), F. Bertrand, D. Horen, J. Lisantti (*Oak Ridge National Lab*)
480. The spectral function of  $p+n$  in  $^6\text{Li}$  from the  $^6\text{Li}(p, \alpha)pn$  reaction [completed], R.E. Warner (*Oberlin Coll. and U. Notre Dame*), S.E. Darden, J.J. Kolata (*U. Notre Dame*), R. Helmer (*TRIUMF*), C.A. Davis (*U. Manitoba*), P. Schwandt (*Indiana U.*), A. Galonsky, L. Heilbronn, D. Krofcheck (*Michigan State U.*), F.D. Becchetti (*U. Michigan*), C.F. Perdrisat, V. Punjabi (*Coll. of William & Mary*)

482. Measurements of spin transfer coefficients in  $pd$  elastic scattering [completed data-taking], R. Abegg\*, R. Helmer, D.A. Hutcheon (*TRIUMF-U. Alberta*), O. Häusser\*, N. Stevenson, S. Yen (*TRIUMF*), N. Kolb, E. Korkmaz, W.C. Olsen (*U. Alberta*), C.A. Davis (*TRIUMF-U. Manitoba*), D. Mack (*CEBAF*), C.A. Gossett (*U. 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 (*UBC*), R.D. Bent (*Indiana U.*), W.R. Falk, K. Furutani (*U. Manitoba*), G.J. Lolos (*U. Regina*), K. Hicks (*Ohio U.*)
484. Measurement of the spin dipole resonance with  $^{40}\text{Ca}(n,p)^{40}\text{K}$  at 300 MeV [completed], R. Abegg\*, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), J. Mildenerger, A. Trudel, M. Vetterli (*SFU*), O. Häusser\* (*TRIUMF-SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Henderson (*TRIUMF-U. 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 (*U. Western Ontario*), R. Abegg\*, D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), W.P. Alford (*U. Western Ontario*), O. Häusser\* (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*SFU*), R. Henderson (*TRIUMF-U. 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 (*U. Melbourne*), R. Henderson (*TRIUMF-U. Melbourne*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser\* (*TRIUMF-SFU*), M. Vetterli (*SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), M.A. Moinester, A.I. Yavin (*Tel-Aviv U.*), 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 U.*), O. Häusser\* (*TRIUMF-SFU*), B. Pointon, A. Trudel, M. Vetterli (*SFU*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), K. Hicks (*Ohio U.*), 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, (*SFU*), W.P. Alford, A. Celler (*U. 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 (*SFU*), O. Häusser\* (*TRIUMF-SFU*), R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), A. Celler (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), K. Hicks (*Ohio U.*), 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 (*U. Western Ontario*), R. Abegg\*, K. Ferguson, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), S. Long, K. Raywood (*U. Melbourne*), B.A. Brown (*Michigan State U.*)
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 (*SFU*), D. Frekers, R. Helmer, K.P. Jackson, C.A. Miller, D. Ottewell, S. Yen (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Sevier (*UBC*), W.P. Alford, A. Celler (*U. Western Ontario*), R. Henderson (*TRIUMF-U. Melbourne*), G.A. Moss (*U. Alberta*), K. Hicks (*Ohio U.*), R. Jeppesen (*Los Alamos National Lab*), R. Ristinen (*U. 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 & U. Konstanz*), R. Kiefl (*TRIUMF*), E.J. Ansaldo (*U. Saskatchewan*), T. Riseman, D.Ll. Williams (*UBC*), G.M. Luke (*Columbia U.*)
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 U.*), J.H. Brewer, S.R. Kretzman, T. Riseman (*UBC*), R.F. Kiefl (*TRIUMF*), S.D. Dodds (*Rice U.*), M.B. Maple, M. Torikachvili (*U. California, San Diego*), D.C. Johnston (*Iowa State U. and Ames Lab*), W.J. Kossler, X.H. Yu (*Coll. of William & Mary*), C.E. Stronach (*Virginia State U.*), Y. Hidaka, T. Murakami (*Nihon Telephone and Telegraph*), Y. Oonuki (*Tsukuba U.*)
495. Studies of oxide superconductors by negative muons [active], R. Kadono, K. Nagamine, K. Nishiyama, T. Yamazaki, H. Yasuoka (*U. Tokyo*), N. Nishida (*Tokyo Inst. Tech.*), J.H. Brewer (*UBC*), 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-U. Alberta*), E. Korkmaz, D. Mack, G.A. Moss, W.C. Olsen, Y. Ye (*U. Alberta*), N.R. Stevenson (*TRIUMF*)
497. Measurement of the flavour-conserving hadronic weak interaction [completed data-taking], J. Birchall, J. Bland, A.A. Hamian, L. Lee, S.A. Page, W.D. Ramsay, W.T.H. van Oers, R.J. Woo (*U. Manitoba*), C.A. Davis, R. Helmer, C.D.P. Levy (*TRIUMF*), P.W. Green, G. Roy, G.M. Stinson (*U. Alberta*), J.D. Bowman, R.E. Mischke (*Los Alamos National Lab*), N.A. Titov, A.N. Zelenski (*INR Moscow*)



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 (*U. 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 (*UBC*), J.C. Brodovitch, P.W. Percival (*SFU*), D.M. Garner (*TRIUMF*), S.F.J. Cox (*Rutherford Appleton Lab*), E. Roduner (*U. 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 (*U. di Trieste*), E. Oset, M. Vicente-Vacas (*U. Valencia*), G.R. Smith (*TRIUMF*), M. Hanna, R. Olszewski, M. Rozon, M. Sevier, V. Sossi (*UBC*), R.R. Johnson (*TRIUMF-UBC*), R.P. Trelle (*U. 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 (*U. 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 (*UBC*), E.L. Mathie (*U. Regina*), R.A. Ristinen, R.P. Trelle (*U. Colorado*)
503. Search for a  $\pi NN$  bound state [inactive], R.A. Ristinen, R.P. Trelle (*U. Colorado*), R.R. Johnson (*TRIUMF-UBC*), D. Frekers, D.R. Gill, D. Ottewell, G.R. Smith (*TRIUMF*), R. Olszewski, M.F. Rozon, M.E. Sevier, P. Weber (*UBC*), R. Schubank, N.R. Stevenson (*U. Saskatchewan*), E.L. Mathie (*U. 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. Sevier (*UBC*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*U. Regina*), R.B. Schubank, N.R. Stevenson (*U. Saskatchewan*), J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*U. Colorado*), G.S. Kyle (*New Mexico State U.*), D. Dehnhard (*U. Minnesota*)
505. Total absorption cross sections at low energies [completed], E. Friedman, A. Goldring (*Hebrew U. Jerusalem*), R.R. Johnson, O. Meirav, D. Vetterli, P. Weber (*UBC*), 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 (*U. Regina*), D. Healey, D. Ottewell, R. Tacik (*TRIUMF*), M. Pavan (*UBC*)
508. Study of the  $\pi^+ + d \rightarrow \pi^- + \pi^+ + p + p$  reaction at  $T_{\pi^+} = 270$  MeV [inactive], P. Camerini, R. Rui (*U. di Trieste*), N. Grion (*INFN Trieste*), E. Oset, M.J. Vicente-Vacas (*U. Valencia*), G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, R. Olszewski, F.M. Rozon, M. Sevier, V. Sossi (*UBC*), P. Trelle (*U. 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 (*SFU*), C. Schell (*UBC*)
511. Pion transfer in hydrogenous materials [completed data-taking], D. Armstrong, D.F. Measday, S. Stanislaus (*UBC*), M. Harston (*U. Surrey*), D. Horváth (*Central Research Inst., Budapest*), K. Aniol (*California State U. Los Angeles*)
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. Sevier (*UBC*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*U. Regina*), R.B. Schubank, N.R. Stevenson (*U. Saskatchewan*), J. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*U. Colorado*), G.S. Kyle (*New Mexico State U.*), D. Dehnhard (*U. 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 (*UBC*), R.R. Johnson (*TRIUMF-UBC*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*U. Regina*), R.B. Schubank, N.R. Stevenson (*U. Saskatchewan*), J. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*U. Colorado*)
514. The pion-deuteron breaking reaction with CLASS [deferred], G.J. Lolos, E.L. Mathie, S.I.H. Naqvi (*U. Regina*), G.R. Smith (*TRIUMF*)
515. Pion bremsstrahlung with negative pions [deferred], P. Kitching (*TRIUMF-U. Alberta*), F. Farzanpay, P. Fuchs, A.W. Stetz, L.W. Swenson, N. Wen (*Oregon State U.*), G.R. Smith (*TRIUMF*), W.C. Olsen (*U. Alberta*), N. Stevenson (*U. Saskatchewan*)
516. Angular distributions and energy dependence for  $d(\pi^{+-}, \pi^{-+})\pi NN$  [deferred], R.A. Ristinen, R.P. Trelle (*U. 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 (*UBC*), E.L. Mathie (*U. Regina*), R. Schubank, N.R. Stevenson (*U. Saskatchewan*), D. Ashery (*Tel-Aviv U.*)

517. Cross sections and analysing powers in the  $^{14}\tilde{N}(\pi, 2p)$  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 (*UBC*), R. Rui (*INFN Trieste*), E.L. Mathie, V. Pafilis (*U. Regina*), R.B. Schubank, N.R. Stevenson (*U. Saskatchewan*), J. Brack, J.J. Kraushaar, R.J. Peterson, R.A. Ristinen, R.P. Trelle (*U. Colorado*), G. Kyle (*New Mexico State U.*), P. Roos (*U. Maryland*)
518. Pion-induced pion production on  $^3\text{He}$  at threshold [deferred], R.A. Ristinen, R.P. Trelle (*U. Colorado*), D. Frekers, D.R. Gill, D. Ottewell, G.R. Smith (*TRIUMF*), R.R. Johnson (*TRIUMF-UBC*), R. Olszewski, M.E. Sevier, P. Weber (*UBC*), R. Rui (*INFN Trieste*), E.L. Mathie (*U. Regina*), R.B. Schubank, N.R. Stevenson (*U. 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 (*UBC*), R. Kadono, R. Keitel, R.F. Kiefl (*TRIUMF*), E.J. Ansaldo (*U. Saskatchewan*), J. Greedan (*McMaster U.*), M. Ishikawa (*ISSP, Tokyo*), K. Nagamine, K. Nishiyama (*U. Tokyo MSL*), N. Nishida, S. Ohkuma (*Tokyo Inst. Tech.*), T. Yamazaki (*U. Tokyo*), G.M. Luke, Y.J. Uemura (*Columbia U.*)
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 U.*), J.H. Brewer, J.R. Kempton, S.R. Kreitzman, T.M. Riseman, R. Kiefl (*TRIUMF*), W.J. Kossler, X.H. Yu (*Coll. of William & Mary*), C.E. Stronach (*Virginia State U.*), S. Uchida (*U. Tokyo*), K. Kumagai (*Hokkaido U.*), 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 (*U. Regina*), M. Comyn, D. Frekers, D. Ottewell (*TRIUMF*), D. Humphrey (*Western Kentucky U.*)
524. Muonium reactivity enhancements [completed], G.B. Porter, D.C. Walker, Z. Wu (*UBC*), M.V. Barnabas (*Argonne National Lab*), K. Venkateswaran (*Hindustan Lever Ltd.*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*)
525. Muonium studies on copolymerization in micelles [completed], D.C. Walker, Z. Wu (*UBC*), M.V. Barnabas (*UBC-TRIUMF*), G.B. Porter, K. Venkateswaran (*TRIUMF*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*)
526. A study of the formation and de-excitation of excited nuclear matter [inactive], J.M. D'Auria, R.G. Korteling (*SFU*), K.P. Jackson (*TRIUMF*), V. Viola (*Indiana U.*), 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 (*UBC*), D.M. Garner (*TRIUMF*)
528. Muonium reactions with  $\text{O}_2$ ,  $\text{CO}$  and  $\text{NO}$  in high pressure moderators [completed], D.J. Arseneau, D.G. Fleming, J. Kempton, J. Pan, M. Senba (*UBC*), A.C. Gonzalez (*U. Southern California*), D.M. Garner (*TRIUMF*)
529. Kinetic isotope effects in the muonium + hydrogen halides ( $\text{Hx}$ ) gas reactions [completed data-taking], D.J. Arseneau, D.G. Fleming, J. Kempton, J.J. Pan, M. Senba, A. Tempelmann (*UBC*), A.C. Gonzalez (*U. Southern California*), D.M. Garner (*TRIUMF*)
530.  $\pi^+$ -proton total cross sections at low energies [completed], E. Friedman, A. Goldring (*Hebrew U. Jerusalem*), R.R. Johnson, O. Meirav (*UBC*), B.K. Jennings (*TRIUMF*), G. Wagner (*U. Tübingen*), A. Altman (*Soreq NRC*)
531.  $\mu\text{SR}$  study in trans-(CH) $_x$  [completed data-taking], S. Ikehata, K. Nagamine, K. Nishiyama, N. Oda (*U. Tokyo*)
532. Secondary electron emission in  $\mu$ -foil interactions [active], T. Azuma, Y. Miyake, K. Nishiyama, Y. Watanabe, Y. Yamazaki (*U. Tokyo*), K. Nagamine (*U. Tokyo-RIKEN*), T. Matsuzaki (*RIKEN*), K. Kuroki (*Inst. Police Science, Tokyo*)
533. Studies on formation of mesomolecules by introduction of  $\mu^-$  in  $\text{LiH}$  and  $\text{LiD}$  [completed data-taking], T. Kondow, Y. Miyake, K. Nagamine, T. Nagata, K. Nishiyama (*U. 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 U. School of Medicine*), K. Nagamine (*U. Tokyo*)
535. Search for deeply bound pionic states in heavy nuclei via pion transfer ( $n, p$ ) reactions [completed], R.S. Hayano, T. Yamazaki (*U. Tokyo*), H. Toki (*Tokyo Metropolitan U.*), H. Sakai (*Osaka U.*), O. Häusser\* (*SFU-TRIUMF*), K.P. Jackson (*TRIUMF*), A. Trudel, M.C. Vetterli (*SFU*)

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 (*U. Saskatchewan*), C. Kim (*U. Calgary*)
- 537a. Radiative decay of the  $\Delta$  resonance: Cross sections for  $\pi^- p \rightarrow \gamma n$  [completed data-taking], D.F. Measday, A. Noble (*UBC*), E.C. Booth, D. Delli Carpini, J. Miller (*Boston U.*), D. Mack, S. Wood (*CEBAF*), M. Kovash, M. Pickar, M. Wang (*U. Kentucky*), B. Bassalleck, M. Halka (*U. New Mexico*), M. Moinester (*Tel-Aviv U.*), 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 (*U. New Mexico*), E. Booth, M. Chertok, J. Miller (*Boston U.*), R. Jacot-Guillarmod, D. Ottewell (*TRIUMF*), M.A. Kovash, M.A. Pickar (*U. Kentucky*), D. Mack (*CEBAF*), D.F. Measday (*UBC*), M. Moinester (*Tel Aviv*), P. Weber (*CERN*)
538. Measurement of  $\sigma/B_{\text{GT}}$  for  ${}^{13}\text{C}$  [completed data-taking], J. Mildenerger, A. Trudel, M. Vetterli (*SFU*), O. Häusser\* (*SFU-TRIUMF*), W.P. Alford, A. Celler, (*U. 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 (*UBC*), E.J. Ansaldò (*U. Saskatchewan*), T.L. Estle (*Rice U.*), M. Celio (*U. Zürich*), R. Wäppling (*U. 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 (*U. Toronto*), R.B. Schubank (*U. Saskatchewan*), A. Celler (*U. Western Ontario*), M. Vetterli (*SFU*), R. Richter, H.J. Stein (*U. 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 (*SFU*), R. Henderson (*U. Melbourne-TRIUMF*), T. Chupp (*Harvard U.*)
542. Spin-observables from  ${}^{28}\text{Si}(p, p'\gamma)$  [completed], K. Hicks (*Ohio U.*), A. Trudel, M. Vetterli (*SFU*), O. Häusser\* (*SFU-TRIUMF*), C.A. Miller, S. Yen (*TRIUMF*), A. Celler (*U. Western Ontario*), R. Jeppesen, N.S.P. King, G. Morgan (*Los Alamos National Lab*), N. Hill (*Oak Ridge National Lab*), M. Kovash (*U. Kentucky*), R. Henderson (*U. Melbourne-TRIUMF*), J. Shepard (*U. 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 U.*), R. Henderson (*U. Melbourne-TRIUMF*)
545. A study of quasielastic charge exchange [deferred], F.T. Baker (*U. Georgia*), K. Hicks (*Ohio U.*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), O. Häusser\* (*SFU-TRIUMF*), A. Trudel, M. Vetterli (*SFU*), A. Celler (*U. Western Ontario*), D. Beatty, R. Ferguson, C. Glashauser, A. Green (*Rutgers U.*)
546. Muonium-substituted free radicals [complete], B. Addison-Jones, J.C. Brodovitch, F. Ji, P.W. Percival (*SFU*), D.M. Bartels (*Argonne National Lab*)
547.  $\mu^+\text{SR}$  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-U. Konstanz*), D.Ll. Williams (*UBC*), E.J. Ansaldò (*U. Saskatchewan*), R.H. Heffner (*Los Alamos National Lab*), D.B. Mitzi (*Stanford U.*)
548.  $\mu\text{SR}$  (Condensed matter physics) [completed data-taking], S. Dodds, T.L. Estle (*Rice U.*), R. Kadono, R.F. Kiefl (*TRIUMF*), J.H. Brewer, S.R. Kreitzman (*UBC*), E.J. Ansaldò (*U. Saskatchewan*), M. Celio (*U. Zürich*), R.C. DuVarney (*Emory U.*), 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 (*SFU*), W.P. Alford, A. Celler, (*U. Western Ontario*), W.C. Olsen (*U. Alberta*), J. Engel (*Caltech*), R. Henderson (*U. 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 (*U. Alberta*), J. Miller (*Boston U.*), F. Adimi, P. Roos (*U. Maryland*), F. Farzanpay, P. Fuchs, A. Stetz, W. Swenson, J. Zhao, (*Oregon State U.*), 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 (*U. Alberta*)

553. Ground state correlations and GT strength in  $^{16}\text{O}$  [completed], K. Hicks, J. Rapaport (*Ohio U.*), D. Frekers, R. Helmer, K.P. Jackson, S. Yen (*TRIUMF*), O. Häusser\* (*SFU-TRIUMF*), J. Mildenerger, A. Trudel, M. Vetterli (*SFU*), A. Celler (*U. Western Ontario*), R. Jeppesen (*Los Alamos National Lab*), R. Henderson (*U. 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 (*U. Toronto*), R. Schubank (*U. Saskatchewan*), M. Vetterli (*SFU*), G. Lolos (*U. Regina*), P. Green (*U. Alberta*), R. Henderson (*U. 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 (*U. Regina*), D. Humphrey, G. Vourvopoulos (*Western Kentucky U.*), M. Comyn, D. Frekers, D. Ottewell (*TRIUMF*), G. Jones, P. Weber (*UBC*), G.M. Huber (*Indiana U.*), X. Aslanoglou (*Ohio U.*)
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 (*UBC*), P. Camerini, R. Rui (*U. di Trieste*), N. Grion (*U. di Trieste-INFN*), N.R. Stevenson (*U. Saskatchewan*), M.J. Vicente-Vacas (*U. 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 (*SFU*), M. Arbel, P. Delheij, R. Henderson, D.F. Ottewell, A. Mellinger, A. Sadeh, B. Schneiderbauer, M. Vetterli (*TRIUMF*), D. Thiessen (*UBC*), D.M. Whittall (*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 (*U. Saskatchewan*), R.R. Johnson (*TRIUMF-UBC*), M. Hanna, V. Sossi, P. Weber (*UBC*), O. Häusser\* (*SFU-TRIUMF*), M. Law, M. Vetterli (*SFU*), N. Grion, R. Rui (*INFN Trieste*), E.L. Mathie, M. Yeomans (*U. Regina*), R. Henderson (*U. 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 (*UBC*), R.B. Schubank, Y.M. Shin, N.R. Stevenson (*U. Saskatchewan*), E.L. Mathie (*U. Regina*), N. Grion, R. Rui (*INFN Trieste*), E.T. Boschitz, R. Tacik (*U. Karlsruhe*)
560. Low energy  $\pi^+p$  analyzing powers with CHAOS [active], J. Clark, M.E. Sevier (*U. Melbourne*), B. Jamieson, P. Tagliente (*UBC*), P. Amaudruz, P. Delheij, L. Felawka, D.F. Ottewell, K. Raywood, G.R. Smith (*TRIUMF*), F. Bonutti, P. Camerini, N. Grion, R. Rui (*U. Trieste*), E.L. Mathie, R. Tacik, M. Yeomans (*U. Regina*), J. Brack, G. Hofman, J. Patterson, R.A. Ristinen (*U. Colorado*), E. Gibson (*California State U., Sacramento*), H. Staudenmeier (*U. Karlsruhe*), R. Meier, G. Wagner (*U. Tübingen*)
561. Threshold measurements of  $\text{H}(\pi^-, \pi^+\pi^-)n$  and  $\text{H}(\pi^+, \pi^+\pi^+)n$  [completed], M.E. Sevier (*U. Melbourne*), A. Ambardar, A. Feltham, G. Hofman, R.R. Johnson, G. Jones (*UBC*), D.F. Ottewell, M. Pavan, K. Raywood, G.R. Smith (*TRIUMF*), J. Brack (*U. Colorado*), J.B. Lange (*DRE Ottawa*), F. Duncan (*Queen's U.*), D. Vetterli (*U. Bern*)
562. Spin isovector giant resonances in  $^{181}\text{Ta}$  [completed data taking], S.A. Long, G.G. Shute, B.M. Spicer (*U. Melbourne*), R.S. Henderson (*U. Melbourne-TRIUMF*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), W.P. Alford (*U. 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 (*U. Melbourne*), R.S. Henderson (*U. Melbourne-TRIUMF*), R. Helmer, K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), W.P. Alford (*U. Western Ontario*), J.W. Watson (*Kent State U.*)
564. Differential cross sections and analysing powers for the  $^4\text{He}(\bar{p}, \pi^+)^5\text{He}$  reaction in the region of the  $\Delta(1232)$  resonance [completed], J. Campbell, W.R. Falk, K.M. Furutani, H. Guan (*U. Manitoba*), P. Walden, S. Yen (*TRIUMF*), E.G. Auld, F.A. Duncan (*UBC*), G.J. Lolos (*U. Regina*), R.D. Bent (*IUCF*), G.M. Huber (*IUCF-U. Regina*), E. Korkmaz (*U. Alberta*), A. Trudel (*SFU*), A. Celler (*U. 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 (*U. Manitoba*), C.A. Davis (*TRIUMF-U. Manitoba*), R. Abegg\*, C.A. Miller (*TRIUMF*), P.W. Green, E. Korkmaz, A. Opper (*U. Alberta*), L.G. Greeniaus (*TRIUMF-U. 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 (*SFU*), W.P. Alford (*U. Western Ontario*), T.E. Chupp (*Harvard U.*)

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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. Outa (*U. Tokyo*), T. Nagae, Y. Watanabe, T. Yamazaki (*INS, U. Tokyo*), R. Kadono, Y. Kuno, T. Numao (*TRIUMF*), H. Tada (*U. 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 (*UBC*), G. Smith (*TRIUMF*), M. Rozon (*Carnegie-Mellon U.*), M. Vicente (*U. 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 U.*), Y.M. Shin (*U. Saskatchewan*), K-S. Chung, J-M. Lee (*U. Yonsei, Seoul*), R.B. Schubank (*UBC*), G.R. Mason (*U. Victoria*), R. Helmer, N.R. Stevenson, U. Wienands (*TRIUMF*), Y.K. Lee (*Johns Hopkins U.*), D.P. Rosenzweig (*U. Washington*), B.E. King (*SFU*)
570. Gamma-neutrino angular correlation in muon capture on  $^{28}\text{Si}$  [completed], D.S. Armstrong (*Coll. of William & Mary*), E. Gete, D.F. Measday, B. Mofta (*UBC*), J. Bauer, T.P. Gorringer, B. Johnson, B. Siebels (*U. Kentucky*), S. Stanislaus (*Valparaiso U.*)
571. Longitudinal  $\mu^-$  spin relaxation measurement on high  $T_c$  superconductors [active], H. Kojima, J. Tanaka, E. Torikai (*Yamanashi U.*), K. Nagamine, K. Nishiyama, T. Yamazaki (*U. 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 U.*), D.B. Mitzi (*Stanford U.*), T. Pfiz (*Max Planck Inst.*), D.Ll. Williams (*UBC*)
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 (*UBC*)
574. Muonium radical yields [completed], G.B. Porter, D.C. Walker, Z. Wu (*UBC*), M.V. Barnabas (*Argonne National Lab*), K. Venkateswaran (*Hindustan Lever Ltd.*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*)
575. Ultra-slow  $\mu^-$  production via muon catalyzed fusion [completed data-taking], M. Iwasaki, N. Kawamura, K. Nagamine, S. Sakamoto, K. Shimomura (*U. Tokyo*), K. Ishida, P. Strasser (*RIKEN*), E. Torikai (*Yamanashi U.*), 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 (*U. Alberta*), R. Henderson (*U. Melbourne-TRIUMF*)
578. Negative pion bremsstrahlung [deferred], F. Farzanpay, P. Fuchs, A.W. Stetz, L.W. Swenson, J. Zhao (*Oregon State U.*), P. Kitching (*TRIUMF-U. Alberta*), K. Choi, D. Mack, W.C. Olsen (*U. Alberta*), N. Stevenson (*U. 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 (*UBC*), 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 (*U. Toronto*), J.H. Brewer (*UBC*), R.F. Kiefl (*TRIUMF*), E.J. Ansaldo (*U. Saskatchewan*), D.R. Noakes (*U. Alberta*)
581.  $\mu\text{SR}$  studies in organic superconductors [active], L.P. Le, G.M. Luke, B.J. Sternlieb, Y.J. Uemura (*Columbia U.*), J.H. Brewer, S.R. Kreitzman, T.M. Riseman (*UBC*), R.F. Kiefl (*TRIUMF*), G. Saito, H. Yamochi (*ISSP-U. Tokyo*)
582.  $\mu\text{SR}$  study of the vortex lattice in the mixed state [completed data-taking], E.J. Ansaldo (*U. Saskatchewan*), J.H. Brewer (*UBC*), D.R. Noakes (*Virginia State U.*), Ch. Niedermayer (*U. Konstanz*), A. Mawdsley, J. Tallon (*DSIR, New Zealand*), D.C. Johnson (*Ames U.*)
583.  $\mu\text{SR}$  study of magnetic ordering in oxides [completed data-taking], E.J. Ansaldo (*U. Saskatchewan*), J.H. Brewer, T.M. Riseman (*UBC*), R.F. Kiefl, J.W. Schneider (*TRIUMF*), D.R. Noakes, C. Stronach (*Virginia State U.*), Ch. Niedermayer (*U. Konstanz*), A. Fuertes, B. Martinez, X. Obradors (*U. 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 U.*), S.R. Kreitzman (*UBC*), W.J. Choyke (*U. Pittsburgh*), R.C. DuVarney (*Emory U.*), R. Lichti (*Texas Tech. U.*)
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 U.*), S.R. Kreitzman (*TRIUMF*), T.L. Estle, B. Hitti (*Rice U.*), D. Lamp, R.L. Lichti (*Texas Tech. U.*), R. Duvarney (*Emory U.*), D.W. Cooke, M. Paciotti (*LAMPF*), A.C. Wright (*U. Reading*)

586. Muonium-substituted organic free radicals on surfaces [completed data-taking], E. Roduner, M. Schwager (*U. Zürich*), I. Reid (*PSI*), J.C. Brodovitch, P. Percival, S.K. Leung, S. Sun-Mack, S. Wlodek (*SFU*), D.G. Fleming, A. Gonzalez, K. Hensel, J. Kempton, J. Pan, M. Senba, A. Templemann (*UBC*), R. Marzke (*Arizona State U.*)
587. Study of first forbidden beta transitions using beta-delayed neutron emission [completed data-taking], J. D'Auria, M. Dombisky (*SFU*), W. Liu (*SFU-U. Alberta-U. Toronto*), L. Buchmann, K.P. Jackson, J. Vincent (*TRIUMF*), G. Roy (*U. 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 (*UBC*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*), K. Venkateswarren (*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 (*SFU*), R.E. Azuma, J.D. King, S.S. Wong (*U. 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 (*U. Melbourne*), R.S. Henderson (*U. Melbourne-TRIUMF*), K.P. Jackson, C.A. Miller, S. Yen (*TRIUMF*), W.P. Alford (*U. Western Ontario*), A.D. Bacher (*Indiana U.*)
591. The role of  $3\text{N}\alpha$  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 (*U. Regina*), M. Comyn, D. Ottewell (*TRIUMF*), G. Jones, P. Weber (*UBC*), T. Bauer (*U. 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 (*U. de Montréal*), P. Bergbusch, M.D. Hasi-noff, E. Saettler, D. Sample (*UBC*), D.S. Armstrong (*Coll. of William & Mary*), M. Blecher, C. Sigler (*Virginia Polytechnic Inst. & State U.*), B. Doyle, T.P. Gorringer (*U. Kentucky*)
593. Momentum distributions of backward-production protons in proton-nucleus interactions [active], S. Burzynski, A.J. Trudel (*TRIUMF-SFU*), A. Celler (*TRIUMF-U. Western Ontario*), K.P. Jackson, L. Lee, S. Yen (*TRIUMF*), R. Korteling (*SFU*), 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 (*SFU*), J.E. Cromer, R. Helmer, K.P. Jackson, B.E. King, S. Yen (*TRIUMF*), I. Slaus (*Rudjer Boškovic Institute, Zagreb*), B. Spicer (*U. Melbourne*)
595. Measurement of  $iT_{11}$  in pion absorption on  $^3\text{He}$  [completed data-taking], C. Chan, B. Larson, A. Rahav, M. Vetterli (*SFU*), O. Häusser\* (*SFU-TRIUMF*), P. Delheij, D.R. Gill, P. Levy (*TRIUMF*), G. Jones, M. Pavan (*UBC*), A. Altman, D. Ashery, S. Ram (*Tel-Aviv U.*), R. Henderson (*U. 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 (*SFU*), A. Celler (*U. Western Ontario*), R. Henderson (*U. Melbourne-TRIUMF*)
597.  $\beta$ -decay branching ratios in  $^{26}\text{Ne}$  and  $^{27}\text{Ne}$  [inactive], P. McNeely, G. Roy (*U. Alberta*), L. Buchmann, M. Dombisky, J. Vincent (*TRIUMF*), J. D'Auria (*SFU*)
598. Pion-proton integral cross sections in the resonance region [completed data-taking], E. Friedman, A. Goldring, M. Schechter (*Hebrew U. Jerusalem*), A. Altman (*Soreq NRC*), R.R. Johnson, D. Vetterli (*UBC*), J. Jaki, M. Metzler (*U. 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 (*UBC*), 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 (*UBC*), J. Akimitsu, A. Amano (*Aoyama-Gakuin U.*), E.J. Ansaldo, J. Boyle (*U. Saskatchewan*), C. Ballard, K. Hoyle, S.R. Kreitzman, J.W. Schneider, M. Senba (*TRIUMF*), H. Zhou (*CTF Systems*), P. Mendels (*Orsay-UBC*), C. Niedermayer (*U. Konstanz-TRIUMF*), H. Glückler (*U. Konstanz*), G.M. Luke (*Columbia U.*), R. Cary, H.P. Cook, M. Davis, D.R. Noakes, M.U. Spurlock, C.E. Stronach (*Virginia State U.*), L.J. Campbell, L.L. Daemen (*Los Alamos National Lab*), A. Amato, F.N. Gyax, A. Schenck, M. Weber (*IMP/ETH Zürich*), H. Maletta (*KFA Jülich*), S. Lee (*U. Birmingham*), T. Iwasaki, N. Nishida, S. Okuma, S. Shiratake (*Tokyo Inst. Tech.*), N. Mohri (*ISSP, U. Tokyo*), K. Nishiyama (*U. Tokyo*), J. Sugiyama, S. Tanaka, H. Yamauchi (*SRL/ISTEC*), B. Martinez (*U. 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 (*UBC*), J. Akimitsu, A. Amano (*Aoyama-Gakuin U.*), E.J. Ansaldo, J. Boyle (*U. Saskatchewan*), C. Ballard, K. Hoyle, S.R. Kreitzman, J.W. Schneider, M. Senba (*TRIUMF*), H. Zhou (*CTF Systems*), P. Mendels (*Orsay-UBC*), C. Niedermayer (*U. Konstanz-TRIUMF*), H. Glückler (*U. Konstanz*), G.M. Luke (*Columbia U.*), R. Cary, H.P. Cook, M. Davis, D.R. Noakes, M.U. Spurlock, C.E. Stronach (*Virginia State U.*), 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 (*U. Birmingham*), T. Iwasaki, N. Nishida, S. Okuma, S. Shiratake (*Tokyo Inst. Tech.*), N. Mohri (*ISSP, U. Tokyo*), K. Nishiyama (*U. Tokyo*) J. Sugiyama, S. Tanaka, H. Yamauchi (*SRL/ISTEC*), B. Martinez (*U. Barcelona*), Zhong Ming (*IHEP Beijing*)
603.  $\mu^+$ SR studies of 1-dimensional magnetic systems [active], L.P. Le, G.M. Luke, B.J. Sternlieb, Y.J. Uemura, W.D. Wu (*Columbia U.*), J.H. Brewer, R. Kiefl, T.M. Riseman (*UBC*), S.R. Kreitzman (*TRIUMF*), M. Mekata (*Fukui U.*), Y. Ajiro (*Kyoto U.*), K. Kakurai (*Tohoku U.*)
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 U.*), M. Senba, D.Ll. Williams (*UBC*)
605. Final muon states in semiconductors using rf  $\mu$ SR spectroscopy [completed data-taking], S.A. Dodds, T.L. Estle, B. Hitti (*Rice U.*), R.C. DuVarney (*Emory U.*), J. Brewer, K. Chow, D.Ll. Williams (*UBC*), S.R. Kreitzman, J.W. Schneider, M. Senba (*TRIUMF*), C.D. Lamp, R.L. Lichti (*Texas Tech. U.*), S.F.J. Cox (*Rutherford Appleton Lab*), T. Pfiz (*Max Planck Inst.*), P. Mendes (*U. 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 U.*), J.H. Brewer, R. Kiefl, T.M. Riseman (*UBC*), S.R. Kreitzman (*TRIUMF*), M.B. Maple, C.L. Seaman (*U. California, San Diego*), M. Ishikawa (*U. Tokyo, ISSP*), A.W. Sleight (*Oregon State U.*), R. Gianetta (*City U. 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 (*UBC*), M.V. Barnabas (*Argonne National Lab*), J.M. Stadlbauer\* (*Hood Coll.*), B.W. Ng (*Winona State U.*), K. Venkateswaran (*Hindustan Lever Ltd.*)
608. Muonium in GaP and GaAs [completed], E.J. Ansaldo (*U. Saskatchewan*), K. Chow, S.R. Kreitzman, A. MacFarlane, T. Pfiz (*UBC*), T.L. Estle, B. Hitti (*Rice U.*), R.C. DuVarney (*Emory U.*), R.F. Kiefl (*UBC-TRIUMF*), R.L. Lichti (*Texas Tech. U.*), 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 (*UBC*), G.M. Marshall (*TRIUMF*), J.J. Sloan (*U. Waterloo*)
610. Muonium dynamics and reactivity in Si at high temperature [completed], K. Chow, S.R. Kreitzman, A. MacFarlane (*UBC*), T.L. Estle, B. Hitti (*Rice U.*), R.C. DuVarney (*Emory U.*), R.F. Kiefl (*UBC-TRIUMF*), R.L. Lichti (*Texas Tech. U.*), 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. U. Munich*), L. Asch (*U. Munich*), R. Wäppling (*U. Uppsala*), J. Deportes (*CRNS Grenoble*), J.H. Brewer, K. Chow, R.F. Kiefl (*UBC*), 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 U.*), T.P. Gorringer, B. Johnson, J. Bauer, M. Kovash, M. Pickar (*U. Kentucky*), M. Hasinoff, D. Measday, B. Moftah (*UBC*), D. Wright (*TRIUMF*)
613. Reactions of muonic hydrogen isotopes [completed data-taking], G.A. Beer, M. Maier, G.R. Mason, A. Olin, T. Porcelli (*U. Victoria*), G.M. Marshall (*TRIUMF*), M.C. Fujiwara (*UBC*), R. Jacot-Guillarmod, P.E. Knowles, F. Mulhauser, L.A. Schaller (*U. de Fribourg*), T.M. Huber (*Gustavus Adolphus Coll.*), P. Kammel (*Lawrence Berkeley Lab*), J. Zmeskal (*IMEP Vienna*), A.R. Kunselman (*U. Wyoming*), C. Petitjean, V. Markushin (*PSI*), J.M. Bailey (*Chester Technology*), S.K. Kim (*Jeonbuk National U.*), A. Adamczak (*Inst. Nuclear Physics, Krakow*), M. Faifman (*RRC Kurchatov Inst.*)
614. Precise measurement of the  $\rho$ ,  $\sigma$  and  $(P_\mu\xi)$  parameters in muon decay [active], M. Comyn, D.R. Gill, P. Gumplinger, R. Helmer, R. Henderson, J.A. Macdonald, A. Olin, J.-M. Poutissou, R. Poutissou, H.-C. Walter D. Wright (*TRIUMF*), P. Depommier (*U. Montréal*), P. Green, P. Kitching, M. Quraan, R. MacDonald, N. Rodning, F. Sobratee, G.M. Stinson (*U. Alberta*), M. Hasinoff (*UBC*), E.L. Mathie, R. Tacik (*U. Regina*), W. Shin (*U. Saskatchewan*), E. Korkmaz, T. Porcelli (*UNBC*) Y. Davydov (*JINR, Moscow*), C. Gagliardi, J. Hardy, J. Musser, R. Tribble, M. Vasiliev (*Texas A&M U.*), D. Koetke, R. Manweiler, P. Nord, S. Stanislaus (*Valparaiso U.*), Y. Davydov, A. Khruchinsky, V. Selivanov, V. Torokhov (*KIAE, Moscow*)

615. Normal and sideways spin observables for the reaction  $p\bar{n} \rightarrow pp(^1S_0)\pi^-$  [deferred], D. Ashery, H. Han, M. Moinester, S. Ram, A. Yavin (*Tel Aviv U.*), C. Chan, O. Häusser\*, B. Larson, A. Rahav (*SFU*), P. Delheij, D. Hutcheon, P. Levy, M. Vetterli (*TRIUMF*), F. Duncan, G. Jones (*UBC*), R. Henderson (*TRIUMF-U. Melbourne*)
616. Spin-momentum correlations of nucleons in polarized  $^3\text{He}$  [completed data-taking], W.P. Alford, A. Celler (*U. Western Ontario*), C. Chan, B. Larson, A. Rahav, A. Trudel, Bin Xiao (*SFU*), T.E. Chupp (*Harvard U.*), P. Delheij, K.P. Jackson, P. Levy, M. Vetterli (*TRIUMF*), O. Häusser\* (*SFU-TRIUMF*), R. Henderson (*U. 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 (*SFU*), L. Buchmann (*TRIUMF*), P. McNeely (*U. 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 (*SFU*), 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 (*U. Western Ontario*), R. Henderson (*U. Melbourne-TRIUMF*), D.M. Whittal (*NAC South Africa*), A. Yavin (*Tel Aviv U.*)
619. Studies on high- $T_c$  superconductor LaSrCuO with ( $\mu^-0$ ) probes [completed data-taking], K. Nishiyama, K. Nagamine (*U. Tokyo*), E. Torikai, H. Kojima, I. Tanaka (*U. Yamanashi*), H. Kitazawa (*RIKEN*), R. Saito (*U. Electro-communications*)
620.  $\mu^-$ SR study in trans-(CH) $x$  [active], K. Nagamine, K. Nishiyama, S. Ikehata, N. Oda (*U. Tokyo*)
621. Studies on secondary electron emission in  $\mu^-$ foil interactions [active], T. Azuma, Y. Miyake, K. Nishiyama, Y. Watanabe, Y. Yamazaki (*U. Tokyo*), K. Nagamine (*U. 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. Ansaldò (*U. Saskatchewan*), K. Chow, S.R. Kreitzman, A. MacFarlane (*UBC*), S. Connell, J.P.F. Sellschop, M.C. Stemmet (*U. the Witwatersrand*), T.L. Estle, B. Hitti (*Rice U.*), R.C. DuVarney (*Emory U.*), R.F. Kiefl (*UBC-TRIUMF*), D. Lamp, R.L. Lichti (*Texas Tech. U.*), 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 U.*), P.A. Amaudruz, D. Ottewell, G.R. Smith (*TRIUMF*), N. Chant, P. Roos (*U. Maryland*), A. Klein (*Old Dominion U.*), J.T. Brack (*UBC*)
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 (*U. Trieste*), S. McFarland, P. Tagliente (*UBC*), P. Amaudruz, L. Felawka, D. Healey, D. Ottewell, K. Raywood, G. Smith (*TRIUMF*), E. Mathie, R. Tacik, M. Yeomans (*U. Regina*), J. Brack, G. Hofman, R. Ristinen (*U. Colorado*), J. Clark, M. Sevier (*U. Melbourne*), E. Gibson (*California State U., Sacramento*), V. Mayorov, O. Patarakin, V. Tikhonov (*Kurchatov Inst.*), R. Meier (*U. Tübingen*)
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 (*U. Colorado*), J.T. Brack, D. Ottewell (*TRIUMF*), R.R. Johnson (*UBC*), D. Oakley (*Lewis & Clark U.*)
626. The characterization of the emitting source in fragment production [deferred], R. Korteling (*SFU*), K.P. Jackson (*TRIUMF*), V. Viola (*Indiana U.*), 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. 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 (*U. 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 U.*), A. Okihana (*Kyoto U. Education*)
629.  $\text{GT}^+$  strength distribution of astrophysical interest in ( $fp$ ) shell nuclei [completed], W.P. Alford, A. Celler (*U. Western Ontario*), D. Frekers, K.P. Jackson, K. Lee, M. Vetterli (*TRIUMF*), R. Henderson (*TRIUMF-U. Melbourne*), S. Burzynski, A. Rahav, A. Trudel (*SFU*), S. El-Kateb (*King Fahd U. 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 (*U. Western Ontario*), E.J. Brash, C. Chan, B. Larson, A. Rahav, A. Trudel (*SFU*), T.E. Chupp (*Harvard U.*), O. Häusser\* (*SFU-TRIUMF*), R. Henderson (*U. Melbourne-TRIUMF*), J.P. Svenne (*U. 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-U. Alberta*), A. Richter, H. Woertche (*U. Darmstadt*)
632. Dilepton production in nucleon-nucleus collisions [deferred], A. Stetz, L.W. Swenson (*Oregon State U.*), K. Hicks (*Ohio U.*), P. Walden (*TRIUMF*), F. Farzanpay, P. Fuchs, J. Zhao (*Ohio State U.*)
633. A measurement of  $p + p \rightarrow p + n + \pi^+$  at 420 and 500 MeV [active], K. Hicks (*Ohio U.*), M. Benjamintz, W.R. Falk, R.G. Pleydon (*U. Manitoba*), R. Abegg\*, D. Hutcheon, A. Miller, P. Walden, S. Yen (*TRIUMF*), M. Hartig (*U. Munster*), G. O'Reilly (*UNBC*)
634. Investigation of the  $(p, d\pi^+)$  reaction in the quasifree region [active], M. Benjamintz, J.R. Campbell, W.R. Falk, A. Green (*U. Manitoba*), P.L. Walden, S. Yen (*TRIUMF*), E. Korkmaz (*UNBC*), E.G. Auld (*UBC*)
635. Experimental survey of the  $(\bar{p}, \pi^-)$  reaction in the  $\Delta$ -region [active], E. Korkmaz (*UNBC*), R. Abegg\*, D.A. Hutcheon, A. Lang, P.L. Walden, S. Yen (*TRIUMF*), W.C. Olsen, A.K. Opper, M. Punyasena (*U. Alberta*), E.G. Auld, G. Jones (*UBC*), R.D. Bent (*IUCF*), J. Campbell, W.R. Falk (*U. 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 (*UBC*), W. Falk (*U. Manitoba*), E. Korkmaz (*U. Alberta*), L. Bland, T. Londergan, R. Mehrem, P. Schwandt, G. Walker (*Indiana U.*), 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 (*U. Maryland*), E.D. Cooper (*Ohio State U.*), L.G. Greeniaus (*TRIUMF-U. Alberta*), K. Hicks (*Ohio U.*), P. Kitching, W.J. McDonald, W.C. Olsen (*U. Alberta*), D. Mack (*CEBAF*), O. Maxwell (*Florida State U.*)
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 (*U. de Montréal*)
639. Muonium enhancement effects in micelles [completed], G.B. Porter, D.C. Walker, Z. Wu (*UBC*), M.V. Barnabas (*Argonne National Lab*), J.M. Stadlbauer\* (*Hood Coll.*), K. Venkateswaran (*Hindustan Lever Ltd.*), B.W. Ng (*Winona State U.*)
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. U. Munich*), R.F. Kiefl (*UBC-TRIUMF*), R. Wäppling (*U. Uppsala*), T. Takabatake (*Hiroshima U.*)
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 (*UBC*), S. Baer, M. Senba (*UBC-TRIUMF*), A. Gonzalez (*U. 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 U.*), J.H. Brewer, R.F. Kiefl, T.M. Riseman (*UBC*), 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 (*U. New Mexico*), C. Gossett (*U. Washington*), D. Hutcheon, R. Jacot-Guillarmod, D. Ottewell, R. Schubank, N.R. Stevenson (*TRIUMF*), M.A. Kovash, K. Liu (*U. Kentucky*), E. Korkmaz, A. Opper (*U. Alberta*), J. Miller (*Boston U.*), Y.M. Shin (*U. 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 (*UBC*), R. Adams, J. Brack, R. Helmer, D.F. Ottewell, G.R. Smith, B. Wells (*TRIUMF*), R.A. Ristinen (*U. Colorado*), I. Strakowski (*Virginia Tech. Inst.*), E.L. Mathie, R. Tacik (*U. Regina*), H. Staudenmaier (*U. 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 (*UBC*), S.A. Dodds, T.L. Estle (*Rice U.*), R.C. DuVarney (*Emory U.*), D. Lamp, R.L. Lichti (*Texas Tech. U.*), J.W. Schneider, C. Zhang (*TRIUMF*), C. Schwab (*CRN, Strasbourg*)
647.  $\mu^-$  transfer and mesomolecule formation in  $\text{D}_2$ -He mixture [completed data-taking], M. Iwasaki, S. Sakamoto, P. Strasser (*U. Tokyo*), K. Nagamine (*U. Tokyo-RIKEN*), K. Ishida, T. Matsuzaki, Y. Watanabe (*RIKEN*), M. Kamimura (*Kyushu U.*), E. Torikai (*Yamanashi U.*)
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 U.*), J.H. Brewer, R. Kiefl, T.M. Riseman (*UBC*), S.R. Kreitzman (*TRIUMF*), M.B. Maple, C.L. Seaman (*U. California, San Diego*), Y. Onuki (*U. Tsukuba*)

650. Kinetic isotope effects favouring muonium [active], G.B. Porter, D.C. Walker (*UBC*), J.M. Stadlbauer\* (*Hood Coll.*), K. Venkateswaran (*Hindustan Lever Ltd.*), H.A. Gillis (*St. Francis Xavier U.*)
651. Gamow-Teller unit cross section from  $^{64}\text{Ni}(n,p)^{64}\text{Co}(\text{g.s.})$  [active], W.P. Alford (*U. Western Ontario*), E.J. Brash, W. Cummings, W. Kielhorn, A. Trudel (*SFU*), 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 U. Petroleum and Minerals*), H.T. Fortune (*U. Pennsylvania*)
652. Spin-momentum distributions of protons in polarized  $^3\text{He}$  [completed data-taking], E. Brash, W. Cummings, W. Kielhorn (*SFU*), P. Delheij, R. Henderson, M. Vetterli, S. Yen (*TRIUMF*), M. Epstein, D. Margaziotis (*California State U.*), 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. Seviour (*UBC*), E.L. Mathie, R. Tacik (*U. Regina*), R.A. Ristinen (*U. Colorado*), G.S. Kyle (*New Mexico State U.*), P. Schuck (*ISN Grenoble*), G. Chanfray (*IPN Lyon*), P. Camerini, R. Rui (*U. di Trieste*), N. Grión (*INFN Trieste*)
654. Muon investigations of fullerene chemistry [complete], B. Addison-Jones, J.-C. Brodovitch, F. Ji, P.W. Percival (*SFU*), 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 (*UBC*), A. Altman (*TRIUMF-Tel Aviv U.*), E. Friedman, M. Paul, M. Schechter (*Hebrew U. Jerusalem*), G.J. Wagner (*U. Tübingen*)
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722. Pion initial state interactions in the  $^{12}\text{C}(\pi^+, ppp)$  reaction [completed data-taking], T. Mathie, R. Tacik (*U. Regina*), P.A. Amaudruz, L. Felawka, D. Ottewell, K. Raywood, G.R. Smith (*TRIUMF*) M. Kermani, S. McFarland (*UBC*), F. Bonutti, P. Camerini, R. Rui (*U. di Trieste*), N. Grion (*INFN, Trieste*), E.F. Gibson (*California State U., Sacramento*), M. Sevier (*U. Melbourne*), J. Brack, G. Hofman (*U. Colorado*), R. Meier (*U. Tübingen*)
723. Study of pion-nucleus double-scattering reactions [completed data-taking], R. Tacik (*TRIUMF-U. Regina*), T. Mathie (*U. Regina*), P. Amaudruz, L. Felawka, D. Ottewell, K. Raywood, G. Smith (*TRIUMF*), M. Kermani, S. McFarland (*UBC*), F. Bonutti, P. Camerini, R. Rui (*U. di Trieste*), N. Grion (*INFN, Trieste*), J. Brack, G. Hofman (*U. Colorado*), R. Meier (*U. Tübingen*), M. Sevier (*U. Melbourne*), E. Gibson (*California State U. Sacramento*)
724.  $\mu\text{SR}$  measurements on spin ladder systems [active], A. Keren, G.M. Luke, Y.J. Uemura, W.D. Wu (*Columbia U.*), K. Kojima (*Columbia U.-U. Tokyo*), M. Takano (*Kyoto U.*), K. Nagamine (*U. Tokyo*)
725. Pion double charge exchange reactions on  $^{3,4}\text{He}$  in the energy range 50–100 MeV [completed], P. Amaudruz, L. Felawka, R. Meier, D. Ottewell, G. Smith (*TRIUMF*), T. Mathie, R. Tacik, M. Yeomans (*U. Regina*), J. Graeter, G. Wagner (*U. Tübingen*), J. Clark, M. Sevier (*U. Melbourne*), G. Hofman, M. Kermani, P. Tagliente (*UBC*), F. Bonutti, P. Camerini, N. Grion, R. Rui (*U. di Trieste*), J. Brack, R. Ristinen (*U. Colorado*), E. Gibson (*California State U., Sacramento*), O. Patarakin (*Kurchatov Inst.*), E. Friedman (*Hebrew U. Jerusalem*)
726. Beta-delayed proton and  $\gamma$ -decay of  $^{65}\text{Se}$ ,  $^{69}\text{Kr}$  and  $^{73}\text{Sr}$  [active], D. Anthony, J. D'Auria, M. Trinczek (*SFU*), R.E. Azuma, J.D. King (*U. Toronto*), L. Buchmann, K.P. Jackson, J. Vincent (*TRIUMF*), M. Domsbky (*SFU-U. Alberta*), U. Giesen (*TRIUMF-U. Alberta*), J. Görres, H. Schatz, M. Wiescher (*U. Notre Dame*), C. Iliadis (*TRIUMF-U. Toronto*), G. Roy (*U. Alberta*)
728. Search for population and de-excitation of low-spin superdeformed states in Po-Hg region via  $\beta^+$  and  $\alpha$  decays [active], Y.A. Akovali, M. Brinkman (*Oak Ridge National Lab*), J.M. D'Auria (*TRIUMF-SFU*), J.A. Becker, E.A. Henry (*Lawrence Livermore National Lab*), M. Domsbky (*SFU*), P.F. Mantica (*UNISOR*), W. Nazarewicz (*Joint Inst. for Heavy Ion*), J. Rikovska, N.J. Stone (*Oxford U.*), M.A. Stoyer (*Lawrence Berkeley National Lab*), R.A. Wyss (*MSI, Sweden*)
729. Gamow-Teller and spin-dipole strengths from  $^{17,18}\text{O}(n, p)$  [active], D.P. Beatty, H.T. Fortune, P.P. Hui, R.B. Ivie, Z.Q. Mao, M.G. McKinzie, D.A. Smith (*U. Pennsylvania*), W.P. Alford (*U. Western Ontario*), K.P. Jackson, A.G. Ling, C.A. Miller, P. Walden, S. Yen (*TRIUMF*)
730. The solar neutrino problem and a new measurement of  $^7\text{Be}(p, \gamma)^8\text{B}$  [deferred], R.E. Azuma, J.D. King (*U. Toronto*), P. Bricault, L. Buchmann, T. Ruth, H. Schneider, J. Vincent, S. Zeisler (*TRIUMF*), J. D'Auria, R. Korteling (*SFU*), M. Domsbky (*SFU-U. Alberta*), U. Giesen (*TRIUMF-U. Alberta*), C. Iliadis (*TRIUMF-U. Toronto*), G. Roy (*U. Alberta*), M. Wiescher (*U. Notre Dame*)
731. Investigation of spin-polarized muonium in metallic semiconductors [active] K.H. Chow, S. Dunsiger, R.F. Kiefl, W.A. MacFarlane, J. Sonier (*UBC*), S.F.J. Cox (*Rutherford Appleton Lab*), E.A. Davis, A. Singh (*Leicester U.*), T.L. Estle, B. Hitti (*Rice U.*), R.L. Lichti (*Texas Tech. U.*), P. Mendels (*Orsay U.*), C. Schwab (*CRN, Strasbourg*)
732. Quantum impurities in one dimensional spin 1/2 chains [active], I. Affleck, J.H. Brewer, K. Chow, S. Dunsiger, S. Eggert, R.F. Kiefl, A. MacFarlane, J. Sonier (*UBC*), A. Keren, Y.J. Uemura (*Columbia U.*)
733. Probing high  $T_c$  superconductor with “paramagnetic” ( $\mu^- \text{O}$ ) system [active], H. Kojima, I. Tanaka, E. Torikai (*Yamanashi U.*), K. Nishiyama (*U. Tokyo*), K. Nagamine (*U. Tokyo-RIKEN*), I. Watanabe (*RIKEN*), T.P. Das (*State U. New York*), S. Maekawa (*Nagoya U.*)
734. Radiative muon capture on nickel isotopes [active], D.S. Armstrong, P. McKenzie (*Coll. of William & Mary*), G. Azuelos, P. Depommier (*U. de Montréal*), P. Bergbusch, P. Gumplinger, M. Hasinoff, E. Saettler (*UBC*), B. Doyle, T.P. Goringe, R. Sedlar (*U. Kentucky*), M. Blecher, C. Sigler (*Virginia Polytechnic Inst.*), J.A. MacDonald, J.-M. Poutissou, R. Poutissou, D. Wright (*TRIUMF*)

735. Studies of single layer cuprate superconductors [active], G.M. Luke, B. Nachumi, Y.J. Uemura (*Columbia U.*), K. Kojima (*Columbia U.-U. Tokyo*), S. Uchida (*U. Tokyo*), R.H. Heffner, L.P. Le (*Los Alamos Nat. Lab.*), R. MacLaughlin (*U. California, Riverside*), M.B. Maple (*U. California, San Diego*)
736. Tests of electro-weak theory using  $^{14}\text{O}$  beam [deferred], M. Bahtacharya, A. Garcia, R. Rutchi, M. Wayne (*U. Notre Dame*), L. Buchmann (*TRIUMF*), C. Iliadis (*TRIUMF-U. Toronto*), B. Fujikawa (*Lawrence Berkeley Lab.*), S.J. Freedman, J. Mortara (*U. California, Berkeley*)
737. Magnetic and superconducting behaviour in selected oxide materials [active], R.H. Heffner, L.P. Le (*Los Alamos National Lab*), D.E. Maclaughlin (*U. California, Riverside*), G. Luke, B. Nachuma, Y.J. Uemura (*Columbia U.*), K. Kojima (*Columbia U.-U. Tokyo*)
740. Irradiation of silicon tracker components [active], R. Lipton, L. Spiegel (*Fermilab*), K.F. O'Shaughnessy (*U. California, Santa Cruz*), B. Barnett, J. Cameratta, J. Skarha (*Johns Hopkins U.*), N. Brunner, M. Frautschi, M. Gold, Y. Ling, J. Matthews, S. Seidel (*U. New Mexico*), D. Bortoletto, A. Garfinkel, A. Hardman, K. Hoffman, T. Keaffaber, N.M. Shaw (*Purdue U.*)
741. Beta-delayed proton decay of  $^{17}\text{Ne}$  to  $\alpha$ -emitting states in  $^{16}\text{O}$  [completed data-taking], J. Chow, J.D. King, A.C. Morton (*U. Toronto*), L. Buchmann, M. Dombosky, K.P. Jackson, P. Wrean (*TRIUMF*), J.M. D'Auria (*SFU*), G. Roy (*U. Alberta*), N. Bateman (*Cornell U.*), W. Galster (*U. Catholique de Louvain*), T. Davinson, A.C. Shotter (*U. Edinburgh*), R.N. Boyd (*Ohio State U.*), C. Iliadis (*U. North Carolina*), J. Powell (*U. California, Berkeley*), U. Giesen (*U. Notre Dame*)
742. Scattering of muonic hydrogen isotopes [active], V.M. Bystritsky, V.A. Stolupin (*JINR*), R. Jacot-Guillarmod, P.E. Knowles, F. Mulhauser (*U. Fribourg*), G.M. Marshall (*TRIUMF*), M. Filipowicz, J. Wozniak (*Fac. Phys., Nucl. Tech., Krakow*), A. Adamczak (*Inst. Nucl. Physics, Krakow*), A.R. Kunselman (*U. Wyoming*), V.E. Markushin, C. Petitjean (*PSI*), T.M. Huber (*Gustavus Adolphus Coll.*), G.A. Beer, M. Maier, A. Olin, T.A. Porcelli (*U. Victoria*), P. Kammel (*U. California, Berkeley*), M.C. Fujiwara (*UBC*), J. Zmeskal (*IMEP Vienna*), S.K. Kim (*Jeonbuk National U.*)
743. Gamow-Teller strength in  $^{64,66,68}\text{Zn}$  and  $^{63,65}\text{Cu}(n, p)$  [active], W.P. Alford (*U. Western Ontario*), D. Beatty, H.T. Fortune, P.P. Hui, R.B. Ivie, Z. Mao, M.G. McKinzie, D.A. Smith (*U. Pennsylvania*), S. Yen (*TRIUMF*)
744. Hadronic weak and electromagnetic form factors via  $\pi^- p \rightarrow e^+ e^- n$  [active], D. Armstrong (*Coll. of William & Mary*), P. Gumplinger, M.D. Hasinoff, D.H. Wright (*UBC*), M. Blecher (*Virginia Polytech. Inst. & State U.*), E. Christy, B.C. Doyle, T.P. Gorringer, M.A. Kovash (*U. Kentucky*), J.A. Macdonald (*TRIUMF*)
745.  $\mu^-$  SR measurements on one-dimensional spin systems [active], K. Kojima (*Columbia U.-U. Tokyo*), K. Nagamine, K. Nishiyama, S. Uchida (*U. Tokyo*), G.M. Luke, B. Nachumi, Y.J. Uemura (*Columbia U.*), I. Affleck, S. Dunsiger, S. Eggert, R.F. Kiefl (*UBC*)
746. Muonium dynamics in Si, Ge and GaAs studied by RF- $\mu$ SR and  $\mu$ W- $\mu$ SR [active], S.R. Kreitzman (*TRIUMF*), T.L. Estle, B. Hitti (*Rice U.*), R. Lichti (*Texas Tech.*), K. Chow (*UBC*), S.F.J. Cox (*Rutherford Appleton Lab*), E.A. Davis (*Leicester U.*), C. Schwab (*CRN Strasbourg*)
747.  $\mu$ SR study of re-entrant spin glasses a-FeMn, AuFe, and  $\text{Fe}_{70}\text{Al}_{30}$  [active], I.A. Campbell (*U. Paris Sud Orsay*), S. Dunsiger, R.F. Kiefl (*UBC*), M.J.P. Gingras (*TRIUMF*), M. Hennion, I. Mirebeau (*Saclay, LLB*), K. Kojima, G.M. Luke, B. Nachumi, Y.J. Uemura, W.D. Wu (*Columbia U.*)
749. Muonium-substituted free radicals [active], B. Addison-Jones, J.C. Brodovitch, K. Ghandi, I. McKenzie, P.W. Percival (*SFU*), J. Schüth (*U. Bonn*)
750. Liquid chemistry  $\mu$ SR [active], G.B. Porter, D.C. Walker (*UBC*), J.M. Stadlbauer\* (*Hood Coll.*), K. Venkateswaran (*Lever Hindustan Ltd.*), M.V. Barnabas *Procter & Gamble Ltd.*)
751. Tests in preparation for  $\mu$ SR measurements of off-axis internal magnetic fields in anisotropic superconductors [active], E. Csomortani, W.J. Kossler, X. Wan (*Coll. of William & Mary*), D.R. Harshman (*Physikon Research Inc.*), A. Greer (*Gonzaga U.*), E. Koster, D.L. Williams (*UBC*), C.E. Stronach (*Virginia State U.*)
752. Muonium centres in Si and GaAs [active], K.H. Chow (*Oxford U.*), S.F.J. Cox (*Rutherford Appleton Lab*), E.A. Davis (*Leicester U.*), S. Dunsiger, R.F. Kiefl, W.A. MacFarlane (*UBC*), T.L. Estle (*Rice U.*), B. Hitti (*TRIUMF*), R.L. Lichti (*Texas Tech.*), C. Schwab (*CRN Strasbourg*)
753. Studies of magnetic correlations in planar oxides [active], K. Kojima (*Columbia U.-U. Tokyo*), M. Larkin, G.M. Luke, J. Merrin, B. Nachumi, Y.J. Uemura (*Columbia U.*), B.J. Sternlieb (*Brookhaven Nat. Lab*), S. Uchida (*U. Tokyo*)
754. A search for the muonium substituted hydroxyl radical [deferred], T.A. Claxton, G. Marston (*Leicester U.*), S.F.J. Cox (*Rutherford Appleton Lab*), D. Arseneau, D. Fleming, M. Senba, P. Wassell (*UBC*), J.-C. Brodovitch, P.W. Percival (*SFU*)

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756. Mu+NO spin relaxation: electron exchange or paramagnetism? [deferred], D.G. Fleming, J.J. Pan, M. Senba, M. Shelley (*UBC*), D.J. Arseneau (*TRIUMF*), E. Roduner (*U. Zürich*)
757. Study of muon dynamics in ferroelectric materials and proton ionic conductors – comparison with proton dynamics [active], W.K. Dawson, K. Nishiyama, S. Ohira, K. Shimomura (*U. Tokyo*), K. Nagamine (*U. Tokyo-RIKEN*), S. Ikeda (*KEK*), S. Shin (*U. Tokyo-ISSP*), N. Sata (*Tohoku U.*)
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759. Study of the isotropic hyperfine coupling constant of muonium at high temperature and under uniaxial pressure [active], W.K. Dawson, K. Nishiyama, S. Ohira, K. Shimomura (*U. Tokyo*), K. Nagamine (*U. Tokyo-RIKEN*), T.P. Das (*U. New York, Albany*)
761. Parity violation in  $p-p$  scattering at 450 MeV [active], J. Birchall, L. Lee, S.A. Page, W.D. Ramsay, W.T.H. van Oers, R.J. Woo (*U. Manitoba*), C.A. Davis, J. Doornbos, S. Kadantsev, R. Laxdal, C.D.P. Levy, P.W. Walden, S. Yen (*TRIUMF*), P.W. Green, G. Roy, J. Soukup, G.M. Stinson (*U. Alberta*), N.A. Titov, A.N. Zelenskii (*INR, Moscow*), J.D. Bowman, R.E. Mischke, W.S. Wilburn (*Los Alamos National Lab*), U. Coruh, N.T. Okumusoglu (*Karadeniz Tech. U.*), E. Korkmaz (*UNBC*)
762. Gamow-Teller and spin-flip dipole strengths near  $A=90$  [active], W.P. Alford (*U. Western Ontario*), D.P. Beatty, H.T. Fortune, P.P. Hui, R.B. Ivie, D. Koltenuk, J. Yu (*U. Pennsylvania*), A. Ling, S. Yen (*TRIUMF*), S. El-Kateb (*King Fahd U.*)
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766. The ortho-para transition rate in muonic molecular hydrogen [active], D.S. Armstrong, J.H.D. Clark, P. King (*Coll. of William & Mary*), T.P. Gorringer, S. Tripathi, P.A. Żolnierczuk (*U. Kentucky*), M.D. Hasinoff, T. Stocki (*UBC*), D.H. Wright (*TRIUMF*)
767. Direct measurement of sticking in muon catalyzed  $d-t$  fusion [active], J.M. Bailey (*Chester Technology, UK*), G.A. Beer, M. Maier, G.R. Mason, T.A. Porcelli (*U. Victoria*), K.M. Crowe, P. Kammel (*U. California, Berkeley-LBL*), M.C. Fujiwara, E. Gete, T.J. Stocki (*UBC*), T.M. Huber (*Gustavus Adolphus Coll.*), S.K. Kim (*Jeonbuk National U.*), A.R. Kunselman (*U. Wyoming*), G.M. Marshall, A. Olin (*TRIUMF*), C.J. Martoff (*Temple U.*), V.S. Melezhik (*JINR, Dubna*), F. Mulhauser (*U. Fribourg*), C. Petitjean (*PSI*), J. Zmeskal (*IMEP Vienna*)
768. Generalized Fulde-Ferrell-Larkin-Ovchinnikov state in heavy fermion and intermediate valence systems [active], J. Akimitsu, K. Ishii, A. Yamashita, T. Yokoo (*Aoyama Gakuin U.*), R. Kadono (*RIKEN*), K. Nishiyama (*U. Tokyo*)
769. Effects of uniaxial stress on muonium in semiconductors [active], K.H. Chow (*Oxford*), B. Hitti (*TRIUMF*), R.F. Kiefl (*UBC*), T.L. Estle (*Rice U.*), R. Lichti (*Texas Tech. U.*)
770.  $\mu$ SR studies of organic conductors: (BEDT-TTF)<sub>2</sub>-X and (TMTTF)<sub>2</sub>Br [active], K. Kojima, M. Larkin, G.M. Luke, J. Merrin, B. Nachumi, Y.J. Uemura (*Columbia U.*), P.M. Chaikin (*Princeton U.*), G. Saito (*Kyoto U.*)
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772. Search for the  $\Delta-\Delta$  dibaryon [active], R. Abegg\*, C.A. Miller, P. Walden, S. Yen (*TRIUMF*), R. Bent (*Indiana U.*), T.Y. Chen, F. Wang, C.H. Ye (*Nanjing U.*), W. Falk (*U. Manitoba*), D. Frekers, M. Hartig (*U. Muenster*), T. Goldman (*Los Alamos National Lab*), M. Heyrat, C.W. Wong (*UCLA*), G. Jones (*UBC*), E. Korkmaz, G. O’Rielly (*UNBC*), C. Rangacharyulu (*U. Saskatchewan*), I. Strakovsky (*Virginia Tech. Inst.*), Z.X. Sun, J.C. Xu (*Inst. Atomic Energy, China*), T. Walton (*Cariboo U. Coll.*)
773. Muon-electron interaction in  $n$ -type silicon [active], D. Arseneau, B. Hitti, S.R. Kreitzman (*TRIUMF*), J.H. Brewer, R.F. Kiefl, G. Morris (*UBC*), K. Chow (*Oxford U.*), S.F.J. Cox (*Rutherford Appleton Lab*), D.G. Eshchenko (*INR, Moscow*), T.L. Estle (*Rice U.*), R. Lichti (*Texas Tech. U.*), V.G. Storchak, (*Kurchatov Inst.*)

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774. Muonium dynamics in GaAs studied by rf and  $\mu$ -wave  $\mu$ SR [active], B. Hitti, S.R. Kreitzman (*TRIUMF*), T.L. Estle (*Rice U.*), R. Lichti (*Texas Tech. U.*) 69
775. Electron transport in insulators, semiconductors and magnetic materials [active], A. Benbasat, J.H. Brewer, D.G. Fleming, W.N. Hardy, G. Morris (*UBC*), D. Arseneau, C. Ballard, M. Good, B. Hitti, S.R. Kreitzman (*TRIUMF*), E.J. Ansaldo (*U. Saskatchewan*), N.V. Prokof'ev, V.G. Storchak (*Kurchatov Inst.*), S.P. Cottrell, S.F.J. Cox (*Rutherford Appleton Lab*)
776. Rare earth materials with disordered spin structures [completed data-taking], J.H. Brewer (*UBC*), K. Fukamichi (*Tohoku U.*), G.M. Kalvius (*Tech. U. Munich*), C.U. Jackson, D.R. Noakes, C.E. Stronach, M.F. White, Jr. (*Virginia State U.*), R. Wäppling (*Uppsala U.*) 69
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778.  $\pi^\pm p$  differential cross sections in the Coulomb-nuclear interference region [active], P. Amaudruz, D. Ottewell, M. Pavan, K. Raywood, G. Smith (*TRIUMF*), P. Camerini, E. Fragiaco, N. Grion, R. Rui (*U. di Trieste*), K. Babcock, E. Mathie, R. Tacik, M. Yeomans (*U. Regina*), J. Breitschopf, H. Denz, R. Meier, G. Wagner (*U. Tübingen*), G. Moloney, M. Seviator (*U. Melbourne*), J. Brack, G. Hofman, J. Patterson, R. Ristinen (*U. Colorado*), E. Gibson (*California State U., Sacramento*), O. Patarakin (*Kurchatov Inst.*) 52
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780. Deeply bound pionic states through  $^{208}\text{Pb}(p, ^3\text{He})^{206}\text{Pb} \otimes \pi^-$  [completed], D. Frekers, W. Garske, K. Grewer, M. Hartig, H. Wörtche (*U. Muenster*), H. Machner (*KFA, Jülich*), D. Hutcheon, P. Walden, S. Yen (*TRIUMF*), A. Opper (*U. Ohio*)
781. Investigations of the  $\pi\pi$  invariant mass distributions of nuclear ( $\pi^+$ ,  $\pi^-\pi^+$ ) reactions with the CHAOS detector [completed data-taking], J. Clark, G. Moloney, M.E. Seviator (*U. Melbourne*), G. Hofman (*UBC-U. Colorado*), M. Kermani, S. McFarland, K. Raywood (*UBC*), P. Amaudruz, L. Felawka, D.F. Ottewell, G.R. Smith (*TRIUMF*), R. Meier (*TRIUMF-U. Tübingen*), F. Bonutti, P. Camerini, E. Fragiaco, R. Rui (*INFN, Trieste-U. Trieste*), N. Grion (*INFN, Trieste*), E.L. Mathie, R. Tacik, (*U. Regina*), J. Brack (*TRIUMF-U. Colorado*), R.A. Ristinen (*U. Colorado*), E. Gibson (*California State U., Sacramento*), J. Graeter, G. Wagner (*U. Tübingen*), V. Mayorov, O. Patarakin, V. Tikhonov (*Kurchatov Inst.*) 55
782. Non-fermi-liquid behaviour and other novel phenomena in heavy-fermion alloys [active], W.P. Beyermann, D.E. MacLaughlin (*U. California, Riverside*), R.H. Heffner (*Los Alamos National Lab*), G.M. Luke, Y.J. Uemura (*Columbia U.*), G.J. Nieuwenhuys (*U. Leiden*), P.C. Canfield (*Iowa State U.*), Z. Fisk (*Florida State U.*), M.B. Maple (*U. California, San Diego*), G.R. Stewart (*U. Florida-U. Augsburg*)
783. Paramagnetic frequency shifts in unconventional superconductors [active], R.H. Heffner (*Los Alamos National Lab*), W.P. Beyermann, D.E. MacLaughlin (*U. California, Riverside*), G.J. Nieuwenhuys (*U. Leiden*), Y.J. Uemura (*Columbia U.*), G.R. Stewart (*U. Florida-U. Augsburg*), G.M. Luke (*McMaster U.*), B. Andraka (*U. Florida*), P.C. Canfield (*Ames Lab, Iowa State U.*), Z. Fisk (*Florida State U.*), M.B. Maple (*U. California, San Diego*) 70
784.  $\mu$ SR studies of spin singlet states in oxides [active], Y. Fudamoto, K. Kojima, M. Larkin, G.M. Luke, J. Merrin, B. Nachumi, Y.J. Uemura (*Columbia U.*), S. Dunsiger, R.F. Kiefl (*UBC*), M. Gingras (*U. Waterloo*), M. Sato (*Nagoya U.*), H. Hase (*RIKEN*), K. Uchinokura, K. Ueda, Y. Ueda (*U. Tokyo*)
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788. Nuclear and atomic physics with the CPT spectrometer [active], B. Barber, K.S. Sharma (*U. Manitoba*), X. Feng (*U. Manitoba–McGill U.*), F. Buchinger, J. Crawford, S. Gulick, J. Lee, B. Moore (*McGill U.*), E. Hagberg, J. Hardy, V. Koslowsky, G. Savard (*Chalk River Nuclear Lab*)
789.  $\mu$ SR studies of magnetic fluctuations in hydronium jarosites, model Kagomé antiferromagnets [active], A. Harrison, A.S. Wills (*U. Edinburgh*), Y. Fudamoto, K. Kojima, M. Larkin, G.M. Luke, J. Merrin, B. Nachumi, Y.J. Uemura (*Columbia U.*), T. Mason (*U. Toronto*)
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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*)
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837. Pion-induced errors in memory chips [active], J.T. Brack, G. Hofman, J. Patterson R.J. Peterson, R.A. Ristinen (*U. Colorado*), J.F. Ziegler (*IBM*), M.E. Nelson (*US Naval Academy*), G. Smith (*TRIUMF*)
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857. Investigation of the magnetic properties of the cerium compound probed by negative muon [active], W. Higemoto, K. Nagamine, K. Nishiyama, K. Shimomura (*KEK*), V.V. Krishnamurthy (*RIKEN*)
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859. A search for non-Markovian  $\mu^+$  diffusion in solids:  $\mu^+$  spectral spin hopping in high transverse field [active], G. Alexandrowicz, A. Grayevsky, N. Kaplan, T. Tashma (*Racah Inst. Physics*), A. Schenck (*ETH Zürich*)
860. Mass and charge transport in disordered media: orientational glasses [active], J.H. Brewer, G.D. Morris (*UBC*), Yu.M. Kagan, N.V. Prokof'ev, V.G. Storchak (*Kurchatov Inst.*), D. Arseneau, B. Hitti (*TRIUMF*), E. Morenzoni (*PSI*), F.J. Bermejo (*CONSEJO, Madrid*), S.F.J. Cox, S.P. Cottrell (*Rutherford Appleton Lab*), D.G. Eshchenko (*INR, Moscow*), R. DeRenzi, M. Ricco (*U. Parma*)
862. Polarization observables in the  $\bar{p}(\pi^\pm, \pi^+, \pi^\pm)$  reactions: a test of chiral perturbation theory [active], P. Amaudruz, D. Ottewell, K. Raywood, G. Smith, R. Tacik (*TRIUMF*), K. Babcock, R. Lewis, E. Mathie, N. Mobed, H. Xu, M. Yeomans (*U. Regina*), P. Camerini, E. Fragiaco, N. Grion, R. Rui (*U. di Trieste*), H. Clement, H. Denz, R. Meier, G. Wagner (*U. Tübingen*), J. Clark, G. Maloney, M. Sevier (*U. Melbourne*), J. Brack, G. Hofman, J. Patterson, R. Ristinen (*U. Colorado*), E. Gibson (*California State U. Sacramento*) 61
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864. Measurement of the two-photon capture mode of the pionic deuterium atom [active], S. Arole, T. Gorringe, C. Nenkov, S. Tripathi, P. Żolnierczuk (*U. Kentucky*), D. Armstrong, J. Clark (*Coll. of William & Mary*), M. Hasinoff (*UBC*), D. Wright (*TRIUMF*)
865. Electronic structure and diffusion kinetics of muonium in group III nitrides [active], W. Higemoto, R. Kadono, K. Nishiyama, K. Shimomura (*KEK-IMSS*), M. Mizuta (*NEC Corp.*), M. Saito (*NEC Inf. Syst. Ltd.*)
866.  $S = 0$  doping to the  $1d$  spin chain: comparison between the  $S = 1/2$  and  $S = 1$  chains [active], I. Eisaki, K.M. Kojima, T. Masuda, S. Uchida, K. Uchinokura (*U. Tokyo*), Y. Fudamoto, I. Gat, M.I. Larkin, Y.J. Uemura (*Columbia U.*), G.M. Luke (*McMaster U.*)
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870. Breakout from the hot CNO cycle via the  $^{18}\text{Ne}(\alpha, p)^{21}\text{Na}$  reaction [active], T. Davinson, A. Ostrowski, F. Sarazin, A. Shotter, P. Woods (*U. Edinburgh*), L. Buchmann, J. D'Auria (*TRIUMF*), J. Daly, J. Görres, M. Wiescher (*U. Notre Dame*), P. Leleux (*U. Catholique de Louvain*)
871. Meson and quark effects in nuclear  $\beta$ -decay of  $^{20}\text{Na}$  [active], M. Fukuda, K. Matsuta, M. Mihara, K. Minamisono, T. Minamisono, T. Sumikama (*Osaka U.*), J. Behr, P. Bricault, M. Dombisky, K.P. Jackson, P. Levy (*TRIUMF*), R. Kiefl (*UBC-TRIUMF*), K. Koshigiri (*Osaka Kyoiku U.*), M. Morita (*Josai Int. U.*)
872. Weak interaction studies with trapped radioactive ions [active], J. Dilling, D. Melconian, G. Savard (*SFU*), G.C. Ball, J.A. Behr, P. Bricault, K.P. Jackson (*TRIUMF*), F. Buchinger, J.E. Crawford, J.K.P. Lee, R.B. Moore (*McGill U.*), K.S. Sharma (*U. Manitoba*)
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875. Muon scattering in low  $Z$  materials for muon cooling studies [active], C.A. Baker, G.H. Eaton, T.R. Edgecock, W. Murray, P.R. Norton, K.J. Peach, W.G. Scott (*Rutherford Appleton Lab*), K. Nagamine (*RIKEN*), A. Kirk, J.A. Wilson (*U. Birmingham*), K. Long (*Imp. Coll., London*)
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877.  $\mu$ SR studies of strongly correlated electron systems under a high pressure [active], W. Higemoto, R. Kadono, A. Koda, K. Nishiyama (*KEK-MSL*), K. Satoh (*Saitama U.*), Y. Kitaoka, K. Ishida (*Osaka U.*), K. Nagamine (*RIKEN-KEK-MSL*)
878.  $\mu^+$ SR studies on magnetism of layered compounds  $\text{Cu}_2(\text{OH})_3\text{X}$  ( $\text{X}=\text{Cl}, \text{Br}, \text{I}$ ) [active], G. Maruta, K. Nishiyama (*KEK-MSL*), S. Takeda (*Gunma U.*)
879. Proton- $^{21}\text{Na}$  elastic scattering at astrophysical energies [active], L. Buchmann (*TRIUMF*), T. Davinson, A. Ostrowski, F. Sarazin, A. Shotter, P. Woods (*U. Edinburgh*), R.E. Azuma, J.D. King (*U. Toronto*), A. Chen (*TRIUMF-SFU*), J. Daly, J. Görres, M. Wiescher (*U. Notre Dame*), J. D'Auria (*SFU*), E.S. Konobeevsky, M.V. Mordovskoy, V.A. Simonov, A.V. Stepanov, V.P. Zavarzina (*INR, Moscow*)
880. Ortho-para effect of muon catalyzed fusion in solid deuterium [active], K. Ishida (*RIKEN-KEK*), K. Nagamine (*KEK-RIKEN*), A. Toyoda (*U. Tokyo-RIKEN-KEK*), K. Shimomura (*KEK*), S.N. Nakamura (*RIKEN*)
881. Magnetism of Ce-based heavy fermion superconductor [active], W. Higemoto, R. Kadono, A. Koda (*KEK-IMSS*), K. Ishida, Y. Kitaoka (*Osaka U.*), C. Geibel, F. Steglich (*Max-Planck Inst.*)
882.  $\mu$ SR studies of unconventional superconductivity in an organic superconductor  $(\text{TMTSF})_2\text{ClO}_4$  [active] Y. Fudamoto, I.M. Gat, T. Ito, M.I. Larkin, A. Savici, Y.J. Uemura (*Columbia U.*), G.M. Luke (*McMaster U.*), K.M. Kojima (*U. Tokyo*), P.M. Chaikin, I.J. Lee (*Princeton U.*), M.J. Naughton (*Boston Coll.*)

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