

List of Recent Publications from TRIUMF Proton and Neutron Irradiation Facilities

<u>Title</u>	<u>First Author</u>	<u>Institutions</u>
IEEE NS-55 – December 2008		
Enhanced proton and neutron induced degradation and its impact on hardness assurance testing	M.R. Shaneyfelt	Sandia National Lab. / CEA/DIF, France / TRIUMF
Direct evidence of secondary recoiled nuclei from high energy protons	G. Cellere	Padua University / STMicroelectronics / Sandia / CEA/DIF, France / TRIUMF
IEEE NS-55 – August 2008		
Test procedures for proton-induced single event latchup in space environments	J.A. Felix	Sandia National Lab. / CEA/DIF, France / TRIUMF
2008 IEEE Radiation Effects Data Workshop – July 2008		
Standard Practice for Dosimetry of proton beams for use in radiation effects testing of electronics	M.A. McMahan	LBNL / TRIUMF / MGH / UC Davis / IUCF
IEEE NS-53 – December 2006		
Quantifying the double-sided neutron SEU threat, from low energy (thermal) and high energy (>10 MeV) neutrons	E. Normand	Boeing Radiation Effects Lab. Seattle / Smiths Aerospace
Statistical analysis of the charge collected in SOI and bulk devices under heavy ion and proton irradiation – implications digital SETs	V. Ferlet-Cavrois	CEA/DIF, France / IMEP-ENSERG, France / Sandia National Lab. / Inst. of Space & Astronautical Science, Japan / TRIUMF / CEA-LETI, France
Determination of high energy neutron voltage stress margins for high voltage IGBT and diode pairs from two manufacturers using energetic particle induced charge spectroscopy, EPICS	R. Edwards	Goodrich Engine Control Systems, UK

2006 IEEE Radiation Effects Data Workshop – July 2006

Single event upset characterization of the Virtex-4 field programmable gate array using proton irradiation

D.M. Hiemstra

MDA, Canada

IEEE NS-53 – July 2006

Effects of angle of incidence on proton and neutron-induced single-event latch up

J.R. Schwank

Sandia National Lab. /
CEA/DIF, France / Lockheed
Martin / TRIUMF

Application of imaging systems to characterization of single-event effects in high-energy neutron environments

Z. Török

Univ. of Central Lancashire,
U.K.

Neutron-induced single event effects testing across a wide range of energies and facilities and implications for standards

C. Dyer

QinetiQ, UK

2005 IEEE Radiation Effects Data Workshop – July 2005

Single event upset characterization of the SMJ320C6701 digital signal processor using proton irradiation

D.M. Hiemstra

MDA, Canada

Part II: Dynamic single event upset characterization of the Virtex-II field programmable gate array using proton irradiation

D.M. Hiemstra

MDA, Canada

Dynamic single event upset characterization of the Virtex-II pro's embedded IBM PowerPC405 using proton irradiation

F. Chayab

MDA, Canada

IEEE NS-52 – July 2005

Neutron and proton-induced single event upsets in advanced commercial fully depleted SOI SRAMs

J. Baggio

CEA/DIF, France /
LPES-CRESA, France /
Inst. of Space & Astronautical
Science, Japan / TRIUMF

Effects of particle energy on proton-induced single-event latchup

J.R. Schwank

Sandia National Lab. /
CEA/DIF, France / TRIUMF**IEEE NS-51 – December 2004**

Issues for single-event proton testing of SRAMs

J.R. Schwank

Sandia National Lab. /
CEA France / TRIUMF

IEEE NS-50 – December 2003

Neutron, proton, and electron irradiation effects InFaP/GaAs single heterojunction bipolar transistors

S. Vuppala

Oregon State University

LET spectra of proton energy levels from 50 to 500 MeV and their effectiveness for single event effects characterization of microelectronics

D. Hiemstra

MDA, Canada / TRIUMF

Total dose hardness assurance testing using laboratory radiation sources

P. Paillet

CEA/DIF, France /
Sandia National Lab. /
TRIUMF

IEEE NS-49 – December 2002

Comparison of charge yield in MOS devices for different radiation sources

P. Paillet

CEA/DIF, France /
Sandia National Lab. /
TRIUMF

Gamma enhancement of proton-induced SEE cross section in a CMOS SRAM

L.S. Erhardt

DRDC, Ottawa

IEEE NS-48 – December 2001

Correlation of proton radiation damage in InGaAs – GaAs quantum – well light-emitting diodes

R.J. Walters

US Naval Research Lab.

NIM 479 (2002) 603

Ionizing radiation effects in XC 4036X field programmable gate arrays

D.M. MacQueen

University of Alberta

2003 IEEE Radiation Effects Data Workshop

Single event upset characterization of a personal computer micro-controller system-on-a-chip using proton irradiation

D.M. Hiemstra

MDA, Canada

Improved capabilities for proton and neutron irradiations at TRIUMF

E.W. Blackmore

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