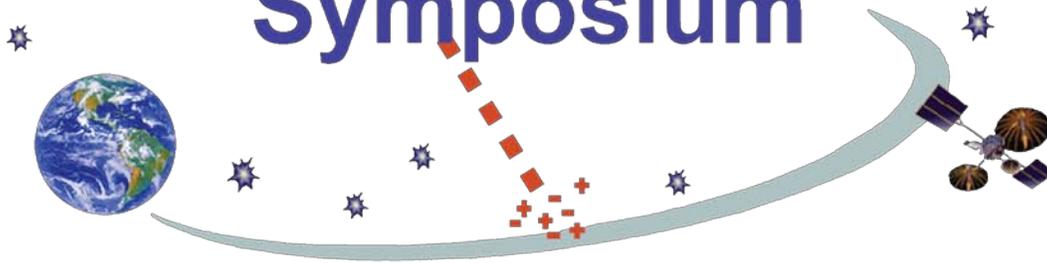


2012 Single Event Effects Symposium



Monday, 2 April		
5:00 - 8:00 PM	Registration/Reception	
5:00 - 8:00 PM	Industrial Exhibit Setup	
Tuesday, 3 April		
7:30 - 8:30 AM	Continental Breakfast	
8:30 AM	B. Wilson	Welcome and Local Arrangements
8:35 AM	C. Hafer	Introduction to Technical Program
Invited Talk:		
8:40 AM	Robert Patti, Tezzaron Semiconductor	3D Integrated Circuits: A New Dimension of Design
Session A: Design and Process Hardening - Chair: Daniel Loveless, Vanderbilt University		
9:30 AM	W. Burke, Micro-RDC	Novel Mitigation Techniques for Reconfigurable Computers for Space Application
9:50 AM	A. Zanchi, Aeroflex Colorado Springs	Single Event Functional Interrupt Location and Elimination via Pulsed Laser Scanning on a RadHard CMOS 16-bit ADC
10:10 AM	V. Savulimedu Veeravalli, Vienna University of Technology	Efficient Radiation-Hardening of a Muller C-Element
10:30 - 11:00 AM	Break	
11:00 AM	C. Boatella Polo, ESA ESTEC	SEL mitigation and testing on ASIC VA32TA2.2 and ADC AD9814
11:20 AM	N. Atkinson, Vanderbilt University	The Quad-Path Hardening Technique for Switched-Capacitor Circuits
11:40 AM	R. Blaine, Vanderbilt University	RHBD Techniques for CMOS Operational Amplifier Design
12:00 - 1:00 PM	Lunch	
Invited Talk:		
1:10 PM	Melanie Berg, MEI Technologies	Characterizing Data Path Single Event Upsets in a Synchronous Design
Session A: Design and Process Hardening (Cont.):		
1:50 PM	P. Eaton, Micro-RDC	Multiply-Interlocked Cell Digital Logic Architecture for SEU and SET Immunity
2:10 PM	K. Lilja, Robust Chip Inc.	Single event error rate reduction for 28nm bulk technology flip-flops through simulation and layout optimization
Session B: Single Event Test Facilities - Chair: Dave Hansen, Maxwell Technologies		
2:30 PM	V. Skuratov, Joint Institute for Nuclear Research	Challenges of Rate Estimation for Destructive and Disruptive Single-Event Effects
2:50 - 3:20 PM	Break	
Session C: SEE on Commercial Memories - Chair: Ray Ladbury, NASA/GSFC		
3:20 PM	C. Hafer, Aeroflex Colorado Springs	Commercial NOR Flash SEE Test Results
3:50 PM	S. Guertin, JPL/NASA	Analysis of SDRAM SEFIs
4:10 PM	G. Magistrati, ESA ESTEC	NAND Flash Storage Technology for Mission-critical Space Applications
5:30 - 8:00 PM	Reception and Industrial Exhibits	
5:30 - 6:30 PM	Cocktails and Appetizers	
6:30 - 8:00 PM	Reception	
8:00 - 10:00 PM	Teardown for Industrial Exhibits	
Wednesday – Thursday Schedule (on back)		

**2012 Single Event Effects Symposium (Cont.)
Wednesday, 4 April**

7:30-8:30 AM	Continental Breakfast	
Session C: SEE on Commercial Memories - Chair: Ray Ladbury, NASA/GSFC		
8:30 AM	B. Sierawski, Vanderbilt University	The Effect of Muon Ionization on the Soft Error Reliability of Deep-Submicron SRAMs
8:50 AM	N. Rezzak, Vanderbilt University	Single event latch-up in 130 nm and 65 nm SRAM cells
Session D: Single-Event Transients - Chair: Hugh Barnaby, Arizona State University		
9:10 AM	F. Wrobel, Universite Montpellier 2	Alpha particle-induced transient currents in 65 nm and 40 nm technologies
9:30 AM	D. Cardoza, The Aerospace Corporation	Single Event Transients Induced by the Absorption of Picosecond X-ray Pulses
9:50 AM	N. Roche, Universite Montpellier 2	The Effects of Dynamic Parameter Modification on ASET Sensitivity in a Shunt Voltage Reference
10:10 - 10:40 AM	Break	
10:40 AM	P. Maillard, Vanderbilt University	SET Characterization of Two 90 nm Voltage Controlled Delay Line (VCDL) Topologies
11:00 AM	J. Warner, Naval Research Laboratory	Proton Induced Charge Collection Transients in GaAs and InAs FETs
11:20 AM	J. Gleason, Arizona State University	Transient Radiation-Induced Capacitance Variation in Silicon PN Junctions
11:40 AM	R. Shuler, NASA JSC	Wide Range SET Pulse Measurement
12:00 - 1:00 PM	Lunch	
Session E: Single-Event Test Methods - Chair: Jim Schwank, Sandia		
1:10 PM	T. Oldham, Dell Services Federal Government	Correlation of Pulsed Laser Results with Milli-Beam Heavy Ion Results for NAND Flash Memory
1:30 PM	M. Clemens, Vanderbilt University	Cross Comparison of SEU and MCU Responses of a 65 nm SRAM to 14 MeV and Terrestrial Neutrons
1:50 PM	D. Loveless, ISDE/Vanderbilt University	Evaluation of Built-In-Self-Test Circuitry for Single-Event Transient Measurements in 45 nm SOI
2:10 PM	E. Cannon, The Boeing Company	Rate of SEU from Two-Node Events
2:30 PM	D. McMorro, Naval Research Laboratory	Pulsed-Laser-Induced Single-Event Effects: Recent Results and Developments
2:50 - 3:20 PM	Break	
Open Learning Forum - Moderator: Bill Heidergott, General Dynamics AIS		
3:20 PM	Nathaniel Dodds, Vanderbilt University	Challenges with Laser SEE Testing due to Reflections from Metal Lines
4:00 PM	Stephen Buchner, NRL	Reflections on Current Single Event Effects Challenges
4:40 PM	Ken LaBel, NASA/GSFC	SEE Test Planning
5:20 PM	End of Open Learning Forum	
6:00 - 8:00 PM	Happy Hour	
Thursday, 5 April		
7:30 - 8:30 AM	Continental Breakfast	
Session F: Destructive SEE - Chair: Steve Guertin, NASA/JPL		
8:30 AM	R. Ladbury, NASA Goddard Space Flight Center	Assessing Part-to-Part Variation for Destructive Single-Event Effects
8:50 AM	V. Senaj, CERN	Non-destructive SEB test of HV GTO-like thyristors
Session G: Product, Technology, System SEE - Chair: Jerry Wert, Boeing		
9:10 AM	A. Lesea, Xilinx	SER from 250nm to 28nm
9:30 AM	A. Touboul, Montpellier 2 University	Trench Fieldstop IGBT failures at ground level
9:50 AM	M. Cassel, EADS Astrium GmbH	Handling of Radiation-Induced and Inherent Effects of NAND-Flash Memory Devices on the Sentinel 2 MMFU
10:10 - 10:30 AM	Break	
10:30 AM	T. Dargnies, 3D Plus USA	Electrical Performances and Radiation Qualification Tests Results of a Highly Integrated and Space Qualified Point of Load Converter
10:50 AM	S. Jagannathan, Vanderbilt University	Frequency Dependence of Alpha-particle Induced Soft Error Rates of Flip-flops in 40 nm CMOS Technology
11:10 AM	End of Technical Session	