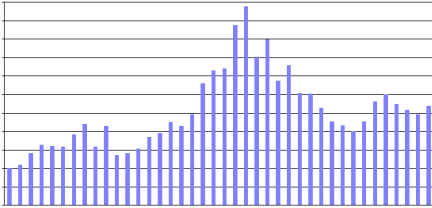




NUCLEAR AND SPACE RADIATION EFFECTS CONFERENCE

**FACT BOOK
2003 Edition**



Published by the IEEE NPSS
Radiation Effects Steering Group

Forty Years of Radiation Hardening

Compiled and Edited by:
Dale G. Platteter, Chairman
Klaus G. Kerris, Past Chairman
Kenneth F. Galloway, Past Chairman

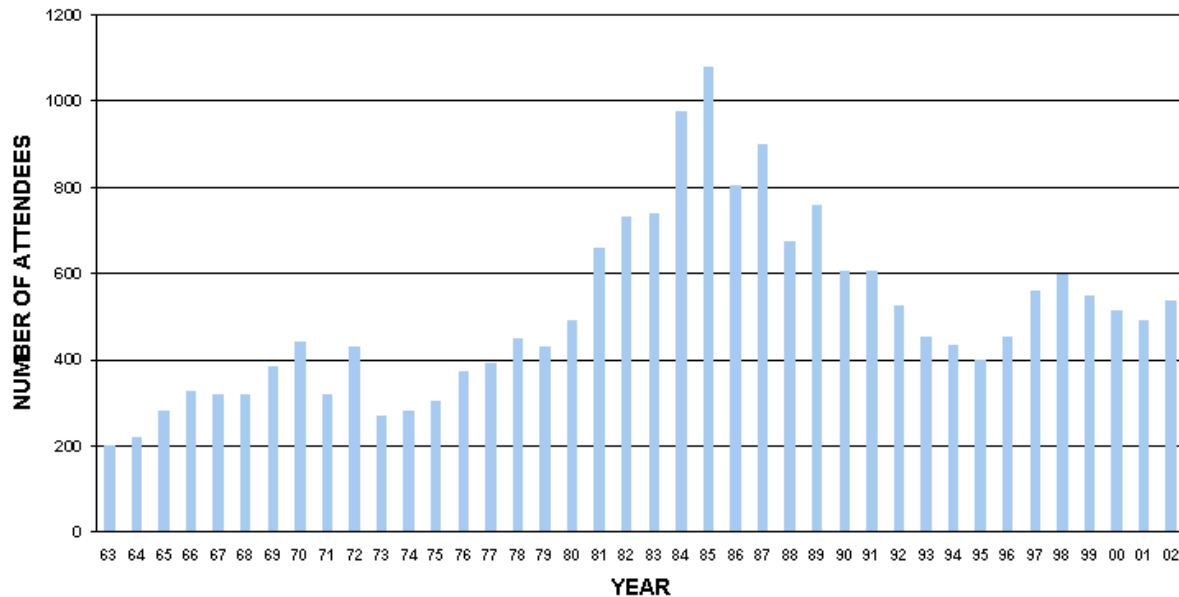
CONFERENCE INDEX

No.	Year	HOST	LOCATION	ATTENDANCE
*	1962	Hilton Hotel	Denver, CO	180
**	1963	Royal York Hotel	Toronto, ON, Canada	200
1	1964	University of Washington	Seattle, WA	220
2	1965	University of Michigan	Ann Arbor, MI	282
3	1966	Stanford University	Palo Alto, CA	327
4	1967	Ohio State University	Columbus, OH	319
5	1968	University of Montana	Missoula, MT	317
6	1969	Pennsylvania State University	University Park, PA	382
7	1970	University of California	San Diego, CA	440
8	1971	University of New Hampshire	Durham, NH	317
9	1972	University of Washington	Seattle, WA	430
10	1973	Utah State University	Logan, UT	270
11	1974	Colorado State University	Fort Collins, CO	280
12	1975	Humboldt State University	Arcata, CA	305
13	1976	University of California	San Diego, CA	370
14	1977	College of William and Mary	Williamsburg, VA	390
15	1978	University of New Mexico	Albuquerque, NM	450
16	1979	University of California	Santa Cruz, CA	430
17	1980	Cornell University	Ithaca, NY	490
18	1981	University of Washington	Seattle, WA	660
19	1982	Caesar's Palace	Las Vegas, NV	730
20	1983	Sheraton Hotel	Gatlinburg, TN	740
21	1984	Broadmoor Hotel	Colorado Springs, CO	975
22	1985	Hyatt-Regency Hotel	Monterey, CA	1077
23	1986	Performing Arts Center	Providence, RI	804
24	1987	Snowmass Conference Center	Snowmass, CO	897
25	1988	Marriott Hotel	Portland, OR	672
26	1989	Marriott's Marco Island Resort	Marco Island, FL	758
27	1990	Bally's Hotel	Reno, NV	606
28	1991	Town and Country Hotel	San Diego, CA	605
29	1992	Hyatt Regency Hotel	New Orleans, LA	526
30	1993	Snowbird Ski & Summer Resort	Snowbird, UT	453
31	1994	Westin La Paloma Resort	Tucson, AZ	432
32	1995	Holiday Inn - Madison West	Madison, WI	399
33	1996	Stouffer's Esmeralda Resort	Indian Wells, CA	454
34	1997	Snowmass Conference Center	Snowmass, CO	560
35	1998	Newport Beach Marriott	Newport Beach, CA	599
36	1999	Waterside Marriott	Norfolk, VA	549
37	2000	Silver Legacy Resort & Casino	Reno, NV	515
38	2001	Westin Bayshore	Vancouver, BC, Canada	490
39	2002	Pointe South Mountain Resort	Phoenix, AZ	538
40	2003	DoubleTree Hotel	Monterey, CA	

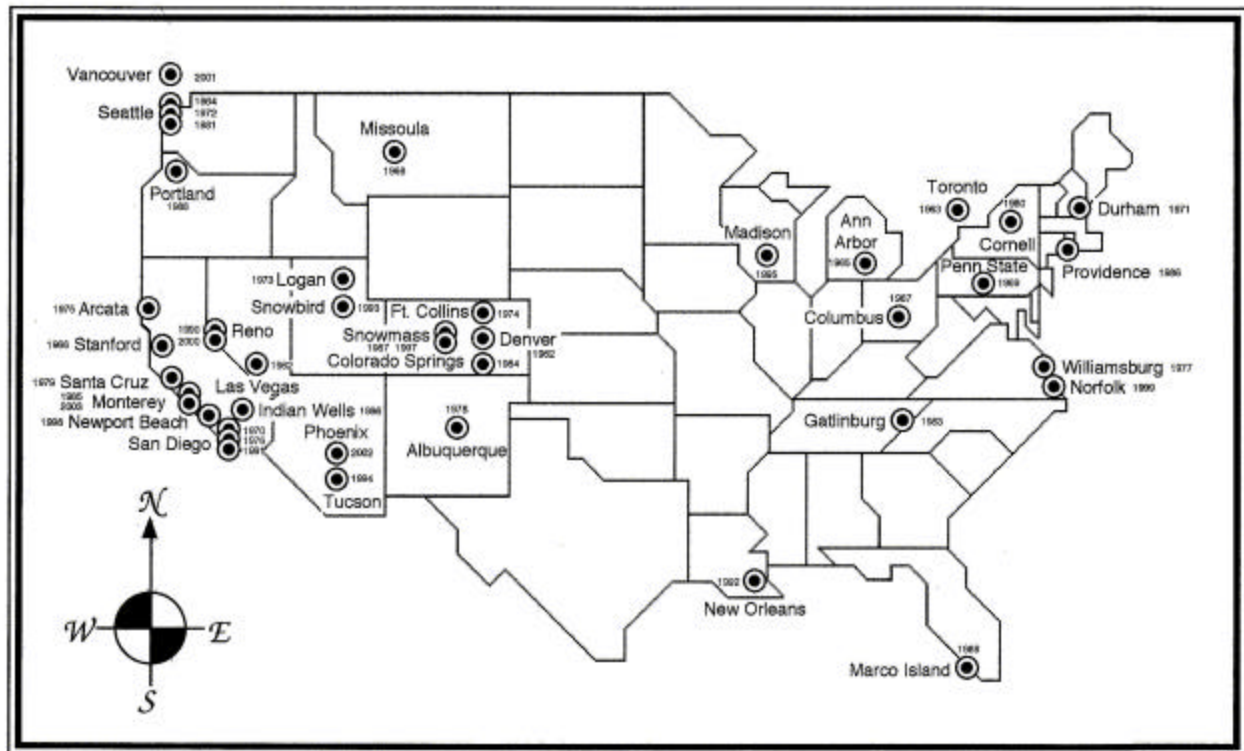
* In 1962, the Nuclear Radiation Effects Program was part of the AIEE Summer General Meeting.

** In 1963, the Nuclear Radiation Effects Program was part of the (IRE/AIEE) Summer General Meeting.

NSREC CONFERENCE ATTENDANCE



IEEE NSREC Locations 1962-2003



INTRODUCTION

The annual IEEE Nuclear and Space Radiation Effects Conference (NSREC) is an international forum for the presentation of research papers related to radiation effects in materials, and electronic devices, circuits, and systems. Papers presented at NSREC are submitted to the *IEEE Transactions on Nuclear Science* for publication in the December issue.

Radiation effects in the IEEE commenced in the late 1950's, under the sponsorship of two subcommittees in the American Institute of Electrical Engineers (AIEE), one of the predecessor engineering organizations that merged with the Institute of Radio Engineers (IRE) in 1963 to form the IEEE. From 1958 to 1961, radiation effects sessions were limited to technical symposia and round table discussions held at annual General Meetings of the AIEE.

Solicited technical papers were presented for the first time at the 1962 AIEE Summer General Meeting held in Denver, Colorado. An enlarged Nuclear Radiation Effects Program was included in the 1963 IEEE (AIEE/IRE) Summer General Meeting held in Toronto, Canada. The first independent Nuclear Radiation Effects Conference was held in July 1964, at the University of Washington, and has been held annually every July since then. Commencing in 1975, by tradition, the Conference has been held at a western location for two-thirds of the time and an eastern location every third year.

Since 1980, a one-day tutorial short course has been conducted on the day immediately preceding the conference. The *NSREC Short Course Notebook* is published each year.

Commencing in 1982, the Hardened Electronics and Radiation Technology (HEART) Conference, sponsored by DoD and DoE, was held at a site near the NSREC and immediately following it. The 1986 HEART Conference was the last to follow this practice.

A Radiation Effects Data Workshop session was added to the conference in 1992. Proceedings from this session are published in the *IEEE Radiation Effects Data Workshop Record*.

Policy and general planning for the NSREC is developed by the IEEE's Nuclear and Plasma Sciences Society (NPSS) Radiation Effects Committee, better known as the Radiation Effects Steering Group (RESG). The committee's chairman, executive vice-chairman, and secretary are elected for three year terms at the open meeting which is held annually at each conference. Further, one member-at-large is elected each year for a three-year term. Ex-officio members of the committee include the past chairman, past, present, and future conference chairmen, a publicity chairman, a

publications chairman, the editor of *IEEE Transactions on Nuclear Science* (special publications assignment), RADECS conference liaison, and members of the NPSS Administrative Committee (AdCom).

1962

**NUCLEAR RADIATION EFFECTS PROGRAM:
AIEE SUMMER GENERAL MEETING**

June 17-22
Hilton Hotel
Denver, CO

Program Chairman: John Winslow
William Price

Attendance: **180**

Chairman: Radiation Effects to Insulation Subcommittee
of the Electrical Insulation Committee -

William Price

Chairman: Radiation Technology Subcommittee
of the Nucleonics Committee -

John Winslow

1963

**NUCLEAR RADIATION EFFECTS PROGRAM:
IEEE (IRE/AIEE) SUMMER GENERAL MEETING**

June 16-21
Royal York Hotel
Toronto, ON, Canada

Program Chairman: R. M. Magee
Bendix Systems Division

Attendance: **200**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-10, November 1963

Guest Editor: Edward E. Conrad
Diamond Ordnance Fuze Labs

Chairman: Radiation Effects to Insulation Subcommittee
of the Electrical Insulation Committee -

William Price

Chairman: Radiation Technology Subcommittee
of the Nucleonics Committee -

John Winslow

1964

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 20-23
University of Washington
Seattle, WA

Conference Chairman: John C. Mitchell
Bell Telephone Laboratories

Technical Program: A. William Snyder
Sandia Corporation

Local Arrangements: H. Wicklein
The Boeing Company

Attendance: **220**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-11, November 1964

Guest Editor: William A. Bohan
IBM Corporation

Radiation Effects Committee:

Chairman - John Winslow

1965

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 12-15
University of Michigan
Ann Arbor, MI

Conference Chairman: William A. Bohan
IBM Corporation

Technical Program: S. C. Rogers
Sandia Laboratory

Local Arrangements: R. Magee
University of Michigan

Attendance: **282**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-12, October 1965

Guest Editor: J. R. Bilinski

Radiation Effects Committee:

Chairman - Edward E. Conrad
Vice Chairman - A. William Snyder
Secretary - Victor J. Linnenbohm
Member at Large - John C. Mitchell

1966

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 18-21
Stanford University
Palo Alto, CA

Conference Chairman: S. C. Rogers
Bell Telephone Laboratories

Technical Program: V. A. J. Van Lint
General Atomic Div., G. D.

Local Arrangements: Ms. Marge Hartman
Stanford University

Attendance: **327**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-13, December 1966

Guest Editor: Frank W. Poblenz

Radiation Effects Committee:

Chairman - Edward E. Conrad
Vice Chairman - A. William Snyder
Secretary - Francis J. Campbell
Member at Large - Richard M. Magee

1967

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 10-14
Ohio State University
Columbus, OH

Conference Chairman: S. E. Harrison
Martin-Marietta Corp.

Technical Program: J. L. Wirth
Sandia Laboratory

Local Arrangements: D. D. Glower
Ohio State University

Attendance: **319**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-14, December 1967

Guest Editor: James P. Raymond
Northrop Corporate Labs

Radiation Effects Committee:

Chairman - Edward E. Conrad
Vice Chairman - A. William Snyder
Secretary - Francis J. Campbell
Member at Large - Floyd N. Copping

1968

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 15-18
University of Montana
Missoula, MT

Conference Chairman: Orlie L. Curtis
Northrop Corporate Labs.

Technical Program: Robert S. Caldwell
The Boeing Co.

Local Arrangements: Thomas J. Collins
University of Montana

Attendance: **317**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-15, December 1968

Guest Editor: Andrew G. Holmes-Siedle
RCA Astro-Electronics Div.

Radiation Effects Committee:

Chairman - A. William Snyder
Vice Chairman - Chihiro Kikuchi
Secretary - Floyd N. Coppage
Member at Large - Robert B. Oswald

1969

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 8-11
Pennsylvania State University
University Park, PA

Conference Chairman: D. K. Wilson
Bell Telephone Laboratories

Technical Program: Edward A. Burke
AF Cambridge Research Laboratories

Local Arrangements: Joseph Stach
Pennsylvania State University

Attendance: **382**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-16, December 1969

Guest Editor: C. A. Goben
University of Missouri, Rolla

Radiation Effects Committee:

Chairman - A. William Snyder
Vice Chairman - Chihiro Kikuchi
Secretary - Floyd N. Coppage
Member at Large - Robert B. Oswald

1970

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 21-23
University of California
San Diego, CA

Conference Chairman: Robert A. Poll
Systems, Science, & Software

Technical Program: R. K. Thatcher
Battelle Memorial Institute

Local Arrangements: Terry M. Flanagan
Gulf General Atomic, Inc.

Attendance: **440**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-17, December 1970

Guest Editor: Harold L. Hughes
Naval Research Laboratory

Radiation Effects Committee:

Chairman - A. William Snyder
Vice Chairman - Chihiro Kikuchi
Secretary - Floyd N. Coppage
Member at Large - Robert B. Oswald

1971

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 20-23
University of New Hampshire
Durham, NH

Conference Chairman: Robert E. McCoskey
Harry Diamond Laboratories

Technical Program: Terry M. Flanagan
Gulf Radiation Technology

Local Arrangements: G. C. Gerhard
University of New Hampshire

Attendance: **317**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-18, December 1971

Guest Editor: Robert B. Oswald
Harry Diamond Laboratories

Radiation Effects Committee:

Chairman - Orlie L. Curtis
Vice Chairman - D. K. Wilson
Secretary - James P. Raymond
Member at Large - Robert A. Poll

1972

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 24-27
University of Washington
Seattle, WA

Conference Chairman: Robert S. Caldwell
The Boeing Company

Technical Program: Bob L. Gregory
Sandia Laboratories

Local Arrangements: C. R. Brittain
The Boeing Company

Attendance: **430**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-19, December 1972

Guest Editor: J. P. Mitchell
Bell Telephone Laboratories

Radiation Effects Committee:

Chairman - Orlie L. Curtis
Vice Chairman - D. K. Wilson
Secretary - James P. Raymond
Senior Member at Large - Robert A. Poll
Junior Member at Large - Edward A. Burke

1973

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 23-26
Utah State University
Logan, UT

Conference Chairman: Julian S. Nichols
Air Force Weapons Laboratory

Technical Program: David K. Myers
Fairchild Semiconductor

Local Arrangements: Robert H. Johnson
Northrop Research & Technology Center

Attendance: **270**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-20, December 1973

Guest Editor: Charles E. Barnes
Sandia Laboratories

Radiation Effects Committee:

Chairman - Orlie L. Curtis
Vice Chairman - D. K. Wilson
Secretary - James P. Raymond
Senior Member at Large - Edward A. Burke
Junior Member at Large - Bob L. Gregory

1974

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 15-18
Colorado State University
Fort Collins, CO

Conference Chairman: Edward A. Burke
A.F. Cambridge Research Laboratories

Technical Program: Ralph H. Stahl
Intelcom Rad Tech

Local Arrangements: D. H. Bryce
Kaman Sciences Corp.

Attendance: **280**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-21, December 1974

Guest Editor: Joseph R. Srour
Northrop Research & Tech. Ctr.

Radiation Effects Committee:

Chairman - Robert E. McCoskey
Vice Chairman - Robert A. Poll
Secretary - James M. McGarrity
Senior Member at Large - Bob L. Gregory
Member at Large - Terry M. Flanagan

1975

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 14-17
Humboldt State University
Arcata, CA

Conference Chairman: Jerry A. Hood
Sandia Laboratory

Technical Program: Itsu Arimura
Boeing Aerospace Co.

Local Arrangements: Harold L. Flescher
Raytheon Co.

Attendance: **305**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-22, December 1975

Guest Editor: Roland E. Leadon
IRT Corporation

Radiation Effects Committee:

Chairman -	Robert E. McCoskey
Vice Chairman -	Robert A. Poll
Secretary -	James M. McGarrity
Senior Member at Large -	Terry M. Flanagan
Junior Member at Large -	Harold L. Flescher

1976

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 27-30
University of California
San Diego, CA

Conference Chairman: Terry M. Flanagan
IRT Corporation

Technical Program: Howard Sander
Sandia Laboratory

Local Arrangements: R. A. Berger
IRT Corporation

Attendance: **370**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-23, December 1976

Guest Editor: Bobby L. Buchanan
Rome Air Development Center

Radiation Effects Committee:

Chairman - Robert E. McCoskey
Vice Chairman - Robert A. Poll
Secretary - James M. McGarrity
Senior Member at Large - Harold L. Flescher
Junior Member at Large - Kenneth F. Galloway

1977

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 12-15
College of William and Mary
Williamsburg, VA

Conference Chairman: Harold L. Hughes
Naval Research Laboratory

Technical Program: Robert B. Oswald
Harry Diamond Laboratories

Local Arrangements: Mayrant Simons
Research Triangle Institute

Attendance: **390**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-24, December 1977

Guest Editor: Ralph H. Stahl
Intelcom Rad Tech

Radiation Effects Committee:

Chairman -	Robert S. Caldwell
Vice Chairman -	Jerry A. Hood
Secretary -	Itsu Arimura
Senior Member at Large -	Kenneth F. Galloway
Junior Member at Large -	Harvey A. Eisen

1978

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 18-21
University of New Mexico
Albuquerque, NM

Conference Chairman: Bob L. Gregory
Sandia Laboratory

Technical Program: Joseph R. Srour
Northrop Research Center

Local Arrangements: Howard H. Sander
Sandia Laboratory

Attendance: **450**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-25, December 1978

Guest Editor: Mayrant Simons
Research Triangle Institute

Radiation Effects Committee:

Chairman - Robert S. Caldwell
Vice Chairman - Jerry A. Hood
Secretary - Itsu Arimura
Senior Member at Large - Harvey A. Eisen
Junior Member at Large - Alan G. Stanley

1979

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 17-20
University of California
Santa Cruz, CA

Conference Chairman: James P. Raymond
Mission Research Corporation

Technical Program: Roland Leadon
JAYCOR

Local Arrangements: David K. Myers
Fairchild Semiconductor

Attendance: **430**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-26, December 1979

Guest Editor: John Bombardt
Research & Development Assoc

Radiation Effects Committee:

Chairman -	Robert S. Caldwell
Vice Chairman -	Jerry A. Hood
Secretary -	Itsu Arimura
Senior Member at Large -	Alan G. Stanley
Junior Member at Large -	William E. Price

1980

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 15-18
Cornell University
Ithaca, NY

Conference Chairman: Harold L. Flescher
Raytheon

Technical Program: Gary Derbenwick
INMOS Corporation

Local Arrangements: Donald H. Bryce, KAMAN
Benjamin H. Stevenson, NJIT

Attendance: **490**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-27, December 1980

Guest Editor: James M. McGarrity
Harry Diamond Laboratories

Radiation Effects Committee:

Chairman -	Jerry A. Hood
Vice Chairman -	Joseph R. Srour
Secretary -	John L. Duncan
Senior Member at Large -	William E. Price
Junior Member at Large -	James L. Ramsey

1981

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 21-24
University of Washington
Seattle, WA

Conference Chairman: Itsu Arimura
Boeing Aerospace Corporation

Technical Program: Eric P. Wenaas
JAYCOR

Local Arrangements: Harold Stocks
Boeing Aerospace Corporation

Attendance: **660**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-28, December 1981

Guest Editor: Dante M. Tasca
General Electric Co.

Radiation Effects Committee:

Chairman -	Jerry A. Hood
Vice Chairman -	Joseph R. Srour
Secretary -	John L. Duncan
Senior Member at Large -	James L. Ramsey
Junior Member at Large -	Bobby L. Buchanan

1982

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 20-22
Caesar's Palace
Las Vegas, NV

Conference Chairman: James L. Ramsey
Naval Weapons Support Center, Crane

Technical Program: Kenneth F. Galloway
National Bureau of Standards

Local Arrangements: George C. Messenger
Consulting Engineer

Attendance: **730**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-29, December 1982

Guest Editor: David M. Long
Science Applications, Inc.

Radiation Effects Committee:

Chairman -	Jerry A. Hood
Vice Chairman -	Joseph R. Srour
Secretary -	John L. Duncan
Senior Member at Large -	Bobby L. Buchanan
Junior Member at Large -	Allan H. Johnston

1983

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 18-21
Sheraton Hotel
Gatlinburg, TN

Conference Chairman: James Gover
Sandia National Laboratories

Technical Program: Charles W. Gwyn
United Technologies Corp.

Local Arrangements: David O. Patterson
Naval Research Laboratory

Attendance: **740**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-30, December 1983

Guest Editor: William A. Seidler
JAYCOR

Radiation Effects Committee:

Chairman - Joseph R. Srouf
Vice Chairman - James L. Ramsey
Secretary - Dante M. Tasca
Senior Member at Large - Allan H. Johnston
Junior Member at Large - Harold L. Flescher

1984

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 23-25
Broadmoor Hotel
Colorado Springs, CO

Conference Chairman: Eric P. Wenaas
JAYCOR

Technical Program: Arne H. Kalma
Northrop Research & Technology Center

Local Arrangements: Thomas A. Tumolillo
Kaman Sciences Corporation

Attendance: **975**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-31, December 1984

Guest Editor: Peter S. Winokur
Sandia National Laboratories

Radiation Effects Committee:

Chairman - Joseph R. Srouf
Vice Chairman - James L. Ramsey
Secretary - Dante M. Tasca
Senior Member at Large - Harold L. Flescher
Junior Member at Large - Floyd N. Copping

1985

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 22-24
Hyatt-Regency Hotel
Monterey, CA

Conference Chairman: Kenneth F. Galloway
National Bureau of Standards

Technical Program: James M. McGarrity
Harry Diamond Laboratories

Local Arrangements: John P. Retzler
Science Applications International Corp.

Attendance: **1077**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-32, December 1985

Guest Editor: Chris Jones
Kaman Sciences Corporation

Radiation Effects Committee:

Chairman -	Joseph R. Srouf
Vice Chairman -	James L. Ramsey
Secretary -	Dante M. Tasca
Senior Member at Large -	Floyd N. Coppage
Junior Member at Large -	Klaus G. Kerris

1986

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 21-23
Performing Arts Center
Providence, RI

Conference Chairman: Roger L. Fitzwilson
SAIC

Technical Program: Bobby L. Buchanan
USAF Rome Air Development Center

Local Arrangements: James R. Weckback
Raytheon

Attendance: **804**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-33, December 1986

Guest Editor: Tom Ellis
Naval Weapons Support Center

Radiation Effects Committee:

Chairman - James L. Ramsey
Vice Chairman - James M. McGarrity
Secretary - Kenneth F. Galloway
Senior Member at Large - Klaus G. Kerris
Junior Member at Large - Peter S. Winokur

1987

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 28-31
Snowmass Conference Center
Snowmass, CO

Conference Chairman: Charles W. Gwynn
United Technologies Corporation

Technical Program: Sherra E. Kerns
North Carolina State University

Local Arrangements: James Gover
Sandia National Laboratories

Attendance: **897**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-34, December 1987

Guest Editor: James C. Pickel
IRT Corporation

Radiation Effects Committee:

Chairman - James L. Ramsey
Vice Chairman - James M. McGarrity
Secretary - Kenneth F. Galloway
Senior Member at Large - Peter S. Winokur
Junior Member at Large - Ronald L. Pease

1988

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 11-15
Marriott Hotel
Portland, OR

Conference Chairman: Bobby L. Buchanan
Spire Corporation

Technical Program: Tom D. Ellis
Naval Weapons Support Center, Crane

Local Arrangements: Allan H. Johnston
Boeing Corporation

Attendance: **672**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-35, December 1988

Guest Editor: Peter G. Coakley
JAYCOR

Radiation Effects Committee:

Chairman -	James L. Ramsey
Vice Chairman -	James M. McGarrity
Secretary -	Kenneth F. Galloway
Senior Member at Large -	Ronald L. Pease
Junior Member at Large -	Itsu Arimura

1989

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 24-28
Marriott's Marco Island Resort
Marco Island, FL

Conference Chairman: Dante M. Tasca
General Electric Company

Technical Program: Peter S. Winokur
Sandia National Laboratories

Local Arrangements: Klaus G. Kerris
Harry Diamond Laboratories

Attendance: **758**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-36, December 1989

Guest Editor: Augustin Ochoa
Hughes Aircraft Company

Radiation Effects Committee:

Chairman - James M. McGarrity
Vice Chairman - Kenneth F. Galloway
Secretary - Deb M. Newberry
Treasurer - Harold L. Flescher
Senior Member at Large - Ronald L. Pease
Member at Large - Itsu Arimura
Junior Member at Large - Harold L. Hughes

1990

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 16-20
Bally's Hotel
Reno, NV

Conference Chairman: Joseph R. Srour
Northrop Research Center

Technical Program: Timothy R. Oldham
Harry Diamond Laboratories

Local Arrangements: James Frank
Honeywell, Inc.

Attendance: **606**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-37, December 1990

Guest Editor: Daniel M. Fleetwood
Sandia National Laboratories

Radiation Effects Committee:

Chairman -	James M. McGarrity
Vice Chairman -	Kenneth F. Galloway
Secretary -	Deb M. Newberry
Treasurer -	Harold L. Flescher
Senior Member at Large -	Itsu Arimura
Member at Large -	Harold L. Hughes
Junior Member at Large -	Dale G. Platteter

1991

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 15-19
Town and Country Hotel
San Diego, CA

Conference Chairman: Charles E. Barnes
Jet Propulsion Laboratory

Technical Program: Ronald L. Pease
Mission Research Corporation

Local Arrangements: Roger A. Greenwell
Science and Engineering Associates, Inc.

Attendance: **605**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-38, December 1991

Guest Editor: Douglas G. Millward
SAIC

Radiation Effects Committee:

Chairman - James M. McGarrity
Vice Chairman - Kenneth F. Galloway
Secretary - Deb M. Newberry
Treasurer - Harold L. Flescher
Senior Member at Large - Harold L. Hughes
Member at Large - Dale G. Platteter
Junior Member at Large - Edward L. Peterson

1992

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 13-17
Hyatt Regency Hotel
New Orleans, LA

Conference Chairman: Mayrant Simons
Research Triangle Institute

Technical Program: Nelson S. Saks
Naval Research Laboratory

Local Arrangements: William B. Mohr
SRI International

Attendance: **526**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-39, December 1992

Guest Editor: Nick W. van Vonno
Harris Semiconductor

Radiation Effects Committee:

Chairman -	Kenneth F. Galloway
Vice Chairman -	Peter S. Winokur
Secretary -	Klaus G. Kerris
Treasurer -	Sandra L. Anderson
Senior Member at Large -	Dale G. Platteter
Member at Large -	Edward L. Peterson
Junior Member at Large -	Charles E. Barnes

1993

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 19-23
Snowbird Ski & Summer Resort
Snowbird, UT

Conference Chairman: Paul V. Dressendorfer
Sandia National Laboratory

Technical Program: Dennis B. Brown
Naval Research Laboratory

Local Arrangements: John J. Silver
United Technologies Microelectronics

Attendance: **453**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-40, December 1993

Guest Editor: Martin G. Buehler
Jet Propulsion Laboratory

Radiation Effects Committee:

Chairman - Kenneth F. Galloway
Vice Chairman - Peter S. Winokur
Secretary - Klaus G. Kerris
Treasurer - David C. Meshel
Senior Member at Large - Edward L. Peterson
Member at Large - Charles E. Barnes
Junior Member at Large - Philippe Calvel

1994

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 18-22
Westin La Paloma Resort
Tucson, AZ

Conference Chairman: Timothy R. Oldham
Army Research Laboratory

Technical Program: Daniel Fleetwood
Sandia National Laboratories

Local Arrangements: Tom Cheek
Texas Instruments

Attendance: **432**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-41, December 1994

Guest Editor: H. Edwin Boesch, Jr.
Army Research Laboratory

Radiation Effects Committee:

Chairman -	Kenneth F. Galloway
Vice Chairman -	Peter S. Winokur
Secretary -	Klaus G. Kerris
Treasurer -	David C. Meshel
Senior Member at Large -	Charles E. Barnes
Member at Large -	Philippe Calvel
Junior Member at Large -	David W. Emily

1995

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 17-21
Holiday Inn - Madison West
Madison, WI

Conference Chairman: Dale G. Platteter
Naval Surface Warfare Center, Crane

Technical Program: Peter J. McNulty
Clemson University

Local Arrangements: Ken Hunt
Mission Research Corporation

Attendance: **399**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-42, December 1995

Guest Editor: Ronald D. Schrimpf
University of Arizona

Radiation Effects Committee:

Chairman - Peter S. Winokur
Vice Chairman - Klaus G. Kerris
Secretary - Mary D'Ordine
Treasurer - Walter Shedd
Senior Member at Large - Philippe Calvel
Member at Large - David W. Emily
Junior Member at Large - Jin Frank

1996

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 15-19
Stouffer's Esmeralda Resort
Indian Wells, CA

Conference Chairman: Charles Utrias
Loral Federal Systems

Technical Program: Ron Schrimpf
University of Arizona

Local Arrangements: Marty Shaneyfelt
Sandia National Laboratories

Attendance: **454**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-43, December 1996

Guest Editor: Art Campbell
Naval Research Laboratory

Radiation Effects Committee:

Chairman -	Peter S. Winokur
Vice Chairman -	Klaus G. Kerris
Secretary -	Mary D'Ordine
Treasurer -	Walter Shedd
Senior Member at Large -	David W. Emily
Member at Large -	Jim Frank
Junior Member at Large -	Ken LaBel

1997

IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 21-25
Snowmass Conference Center
Snowmass, CO

Conference Chairman: Dennis Brown
Naval Research Laboratory

Technical Program: Allan Johnston
JPL

Local Arrangements: Teresa Farris
UTMC

Attendance: **560**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-44, December 1997

Guest Editor: Lloyd Massengill
Vanderbilt University

Radiation Effects Committee:

Chairman -	Peter S. Winokur
Vice Chairman -	Klaus G. Kerris
Secretary -	Dave Emily
Treasurer -	Walter Shedd
Senior Member at Large -	Jim Frank
Member at Large -	Ken LaBel
Junior Member at Large -	Steve Bernacki

1998

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 20-24
Newport Beach Marriott
Newport Beach, CA

Conference Chairman: Jim Schwank
Sandia National Laboratories

Technical Program: Lloyd Massengill
Vanderbilt University

Local Arrangements: Gary Lum
Lockheed-Martin

Attendance: **599**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-45, December 1998

Guest Editor: Fred Sexton
Sandia National Laboratories

Radiation Effects Committee:

Chairman - Klaus G. Kerris
Vice Chairman - Dale Platteter
Secretary - Allan Johnston
Senior Member at Large - Ken LaBel
Member at Large - Steve Bernacki
Junior Member at Large - Nick Van Vonno

1999

IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 12-16
Waterside Marriott
Norfolk, VA

Conference Chairman: Ron Schrimpf
Vanderbilt University

Technical Program: Fred Sexton
Sandia National Laboratories

Local Arrangements: Ken LaBel
NASA Goddard Space Flight Center

Attendance: **549**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-46, December 1999

Guest Editor: Tim Oldham
Army Research Lab

Radiation Effects Committee:

Chairman -	Klaus G. Kerris
Vice Chairman -	Dale Platteter
Secretary -	Allan Johnston
Senior Member at Large -	Steve Bernacki
Member at Large -	Nick Van Vonno
Junior Member at Large -	Jim Kinnison

2000

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 24-28
Silver Legacy Resort & Casino
Reno, NV

Conference Chairman: Ron Pease
RLP Research

Technical Program: Art Campbell
Naval Research Lab

Local Arrangements: Steve Clark
AFRL

Attendance: **515**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-47, December 2000

Guest Editor: Janet Barth
NASA Goddard SFC

Radiation Effects Committee:

Chairman - Klaus G. Kerris
Vice Chairman - Dale Platteter
Secretary - Allan Johnston
Senior Member at Large - Nick Van Vonno
Member at Large - Jim Kinnison
Junior Member at Large - Fred Sexton

2001

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 16-20
Westin Bayshore
Vancouver, BC, Canada

Conference Chairman: Marty R. Shaneyfelt
Sandia National Laboratories

Technical Program: Janet Barth
NASA-Goddard Space Flight Center

Local Arrangements: Joe Benedetto
UTMC

Attendance: **490**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-48, December 2001

Guest Editor: Mike Xapsos
Naval Research Lab

Radiation Effects Committee:

Chairman -	Dale Platteter
Vice Chairman -	Ron Schrimpf
Secretary -	Jim Schwank
Senior Member at Large -	Jim Kinnison
Member at Large -	Fred Sexton
Junior Member at Large -	David Hiemstra

2002

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 15-19
Pointe South Mountain Resort
Phoenix, AZ

Conference Chairman: Ken Hunt
Air Force Research Laboratory

Technical Program: Tom Turflinger
NAVSEA - Crane

Local Arrangements: Jeff Black
Mission Research Corporation

Attendance: **538**

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-49, December 2002

Guest Editor: Steve Witczak
Sandia National Laboratory

Radiation Effects Committee:

Chairman - Dale Platteter
Vice Chairman - Ron Schrimpf
Secretary - Jim Schwank
Senior Member at Large - Fred Sexton
Member at Large - David Hiemstra
Junior Member at Large - Janet Barth

2003

**IEEE ANNUAL CONFERENCE ON
NUCLEAR AND SPACE RADIATION EFFECTS**

July 21-25
DoubleTree Hotel
Monterey, CA

Conference Chairman: Allan Johnston
Jet Propulsion Laboratory

Technical Program: Paul Dodd
Sandia National Laboratories

Local Arrangements: Mark Hopkins
The Aerospace Corporation

Attendance:

Proceedings Published in:
IEEE Transactions on Nuclear Science
NS-50, December 2003

Guest Editor: Jim Kinnison
John Hopkins / Applied Physics Lab

Radiation Effects Committee:

Chairman - Dale Platteter
Vice Chairman - Ron Schrimpf
Secretary - Jim Schwank
Senior Member at Large - David Hiemstra
Member at Large - Ron Pease
Junior Member at Large - Gary Lum

NSREC Outstanding Paper Awards

Here is the list of NSREC Outstanding Conference Papers from 1964 - 2002.

- 1964 R.C. Waddel, "Radiation Damage to Solar Cells on Relay I and Relay II," IEEE Trans. Nucl. Sci. 11, No. 5, pp. 60-68, 1964.
- C.A. Goben and F.M. Smitts, "Anomalous Base Current Component in Neutron Irradiated Transistors," (not published in IEEE Trans. Nucl. Sci.).
- 1965 R.B. Oswald, Jr. and C. Kikuchi, "Changes in the Conductive Properties of CdS Induced by Thermal Neutrons," (not published in IEEE Trans. Nucl. Sci.).
- 1966 H.H. Sander and B.L. Gregory, "Transient Annealing Effects in Semiconductor Devices Following Pulsed Neutron Irradiation," IEEE Trans. Nucl. Sci. 13, No. 6, pp. 53-62, 1966.
- 1967 C.W. Gwyn, D.L. Scharfetter, and J.L. Wirth, "The Analysis of Radiation Effects in Semiconductor Devices," IEEE Trans. Nucl. Sci. 14, No. 6, pp. 153-169, 1967.
- 1968 H.J. Stein, "Electrical Properties of Neutron-Irradiated Silicon at 76°K: Hall Effect and Electrical Conductivity," IEEE Trans. Nucl. Sci. 15, No. 6, pp. 69-76, 1968.
- D.K. Wilson, "Capacitance Recovery in Neutron-Irradiated Silicon Diodes by Majority and Minority -Carrier Trapping," IEEE Trans. Nucl. Sci. 15, No. 6, pp. 77-83, 1968.
- 1969 P.F. Schmidt, M.J. Rand, J.P. Mitchell, and J.D. Ashner, "Radiation-Insensitive Silicon Oxynitride Films for Use in Silicon Devices," IEEE Trans. Nucl. Sci. 16, No. 6, pp. 211-219, 1969.
- 1970 R.E. Leadon, "Model for Short-Term Annealing of Neutron Damage in P-Type Silicon," IEEE Trans. Nucl. Sci. 17, No. 6, pp. 110-117, 1970.
- 1971 R.J. Powell and G.F. Derbenwick, "Vacuum Ultraviolet Radiation Effects in SiO₂," IEEE Trans. Nucl. Sci. 18, No. 6, pp. 99-105, 1971.
- 1972 J.R. Srour and O.L. Curtis, Jr., "Short-Term Annealing in Silicon Devices Following Pulsed 14 -MeV Neutron Irradiation," IEEE Trans. Nucl. Sci. 19, No. 6, pp. 362-370, 1972.
- 1973 E. Harari and B.S.H. Royce, "The Effects of Electron and Hole Trapping on the Radiation Hardness of Al₂O₃ MIS Devices," IEEE Trans. Nucl. Sci. 20, No. 6, pp. 280-287, 1973.
- 1974 J.R. Srour, O.L. Curtis, Jr., and K.Y. Chiu, "Charge Transport Studies in SiO₂: Processing Effects and Implications for Radiation Hardening," IEEE Trans. Nucl. Sci. 21, No. 6, pp. 73-80, 1974.
- R.J. Powell and G.W. Hughes, "Charge Injection and Trapping in Al₂O₃ Gate Insulators," IEEE Trans. Nucl. Sci. 21, No. 6, pp. 179-185, 1974.
- 1975 G.F. Derbenwick and B. L. Gregory, "Process Optimization of Radiation-Hardened CMOS Integrated Circuits," IEEE Trans. Nucl. Sci. 22, No. 6, pp. 2151-2156, 1975.
- J.E. Lohkamp and J.M. McKenzie, "Measurement of the Energy Dependence of Neutron Damage in Silicon Devices," IEEE Trans. Nucl. Sci. 22, No. 6, pp. 2319-2325, 1975.
- 1976 P.S. Winokur, J.M. McGarrity, and H.E. Boesch, Jr., "Dependence of Interface-State Buildup on Hole Generation and Transport in Irradiated MOS Capacitors," IEEE Trans. Nucl. Sci. 23, No. 6, pp. 1580-1585, 1976.

- 1977 J.P. Raymond and R.L. Pease, "A Comparative Evaluation of Integrated Injection Logic," IEEE Trans. Nucl. Sci. 24, No. 6, pp. 2327-2335, 1977.
- 1978 D.M. Tasca, E.T. Raylman, B.L. Beers, and J.E. Tigner, "SGEMP Response of Large, Multiwire Satellite Cables," IEEE Trans. Nucl. Sci. 25, No. 6, pp. 1382-1390, 1978.
- 1979 H.E. Boesch, Jr., and J.M. McGarrity, "An Electrical Technique to Measure the Susceptibility of MOS Gate Insulators," IEEE Trans. Nucl. Sci. 26, No. 6, pp. 4814-4818, 1979.
- W.A. Seidler, B. Goplen, and W. Thomas, "Investigation of Enhanced Electron Current Transport in a Dielectric - Lined Cavity," IEEE Trans. Nucl. Sci. 26, No. 6, pp. 4998-5005, 1979.
- 1980 J.R. Srour, R.A. Hartmann, and S. Othmer, "Transient and Permanent Effects of Neutron Bombardment on a Commercially Available N-Buried-Channel CCD," IEEE Trans. Nucl. Sci. 27, No. 6, pp. 1402-1410, 1980.
- 1981 J.R. Srour, S. Othmer, A. Bahraman, and R.A. Hartmann, "The Search for Neutron-Induced Hard Errors in VLSI Structures," IEEE Trans. Nucl. Sci. 28, No. 6, pp. 3968-3974, 1981.
- 1982 W.A. Seidler, R.C. Keyser, D. Walters, and H.T. Harper, "The Limits to Hardening Electronic Boxes to IEMP Coupling," IEEE Trans. Nucl. Sci. 29, No. 6, pp. 1780-1786, 1982.
- 1983 R.L. Pease, R.M. Turfler, D.G. Platteter, D.W. Emily, and R.D. Blice, "Total Dose Effects in Recessed Oxide Digital Bipolar Microcircuits," IEEE Trans. Nucl. Sci. 30, No. 6, pp. 4216-4223, 1983.
- 1984 J.R. Schwank, P.S. Winokur, P.J. McWhorter, F.W. Sexton, P.V. Dressendorfer, and D.C. Turpin, "Physical Mechanisms Contributing to Device "Rebound," IEEE Trans. Nucl. Sci. 31, No. 6, pp. 1434-1438, 1984.
- 1985 P.S. Winokur, E.B. Errett, D.M. Fleetwood, P.V. Dressendorfer, and D.C. Turpin, "Optimizing and Controlling the Radiation Hardness of a Si-Gate CMOS Process," IEEE Trans. Nucl. Sci. 32, No. 6, pp. 3954-3960, 1985.
- J.R. Srour and R.A. Hartman, "Effects of Single Neutron Interactions in Silicon Integrated Circuits," IEEE Trans. Nucl. Sci. 32, No. 6, pp. 4195-4200, 1985.
- 1986 J.R. Srour, R.A. Hartman, and K.S. Kitazaki, "Permanent Damage Produced by Single Proton Interactions in Silicon Devices," IEEE Trans. Nucl. Sci. 33, No. 6, pp. 1597-1604, 1986.
- R.S. Wagner, J.M. Bradley, C.J. Maggiore, J.G. Beery, and R.B. Hammond, "An Approach to Measure Ultrafast-Funneling-Current Transients," IEEE Trans. Nucl. Sci. 33, No. 6, pp. 1651-1656, 1986.
- 1987 G.P. Summers, E.A. Burke, C.J. Dale, E.A. Wolicki, P.W. Marshall, and M.A. Gehlhausen, "Correlation of Particle-Induced Displacement Damage in Silicon," IEEE Trans. Nucl. Sci. 34, No. 6, pp. 1134-1139, 1987.
- 1988 D.M. Fleetwood, P.S. Winokur, and J.R. Schwank, "Using Laboratory X-Ray and Cobalt -60 Irradiations to Predict CMOS Device Response in Strategic and Space Environments," IEEE Trans. Nucl. Sci. 35, No. 6, pp. 1497-1505, 1988.
- 1989 N.S. Saks and D.B. Brown, "Interface Trap Formation via the Two-Stage H⁺ Process," IEEE Trans. Nucl. Sci. 36, No. 6, pp. 1848-1857, 1989.
- 1990 P.J. McWhorter, S.L. Miller, and W.M. Miller, "Modeling the Anneal of Radiation-Induced Trapped Holes in a Varying Thermal Environment," IEEE Trans. Nucl. Sci. 37, No. 6, pp. 1682-161689, 1990.

- 1991 J.L. Titus, G.H. Johnson, R.D. Schrimpf, and K.F. Galloway, "Single-Event Burnout of Power Bipolar Junction Transistors," IEEE Trans. Nucl. Sci. 38, No. 6, pp. 1315-1322, 1991.
- 1992 R.E. Stahlbush, G.J. Campisi, J.B. McKitterick, W.P. Maszara, P. Roitman, and G.A. Brown, "Electron and Hole Trapping in Irradiated SIMOX, ZMR, and BESOI Buried Oxides," IEEE Trans. Nucl. Sci. 39, No. 6, pp. 2086-2097, 1992.
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- 1994 I.H. Hopkins, G.R. Hopkinson, and B. Johlander, "Proton-Induced Charge Transfer Degradation in CCDs for Near-Room Temperature Applications," IEEE Trans. Nucl. Sci. 41, No. 6, pp. 1984-1991, 1994.
- 1995 D.M. Fleetwood, W.L. Warren, J.R. Schwank, P.S. Winokur, M.R. Shaneyfelt, and L.C. Riewe, "Effects of Interface Traps and Border Traps on MOS Postirradiation Annealing Response," IEEE Trans. Nucl. Sci. 42, No. 6, pp. 1698-1707, 1995.
- 1996 D.M. Fleetwood, L.C. Riewe, J.R. Schwank, S.C. Witzcak, and R.D. Schrimpf, "Radiation Effects at Low Electric Fields in Thermal, SIMOX, and Bipolar Base Oxides," IEEE Trans. Nucl. Sci. 43, No. 6, pp. 2537-2546, 1996.
- 1997 F.W. Sexton, D.M. Fleetwood, M.R. Shaneyfelt, P.E. Dodd, and G.L. Hash, "Single Event Gate Rupture in Thin Gate Oxides," IEEE Trans. Nucl. Sci. 44, No. 6, pp. 2345-2352, 1997.
- 1998 S.C. Witzcak, R.C. Lacoce, D.C. Mayer, D.M. Fleetwood, R.D. Schrimpf, and K.F. Galloway, "Space Charge Limited Degradation of Bipolar Oxides at Low Electric Fields," IEEE Trans. Nucl. Sci. 45, No. 6, pp. 2339-22351, 1998.
- 1999 A.H. Johnston, T. Miyahira, G.M. Swift, S.M. Guertin, and L.D. Edmonds, "Angular and Energy Dependence of Proton Upset in Optocouplers," IEEE Trans. Nucl. Sci. 46, No. 6, pp. 1335-1341, 1999.
- 2000 P.E. Dodd, M.R. Shaneyfelt, D.S. Walsh, J.R. Schwank, G.L. Hash, R.A. Loemker, B.L. Draper, and P.S. Winokur, "Single-Event Upset and Snapback in Silicon-on-Insulator Devices and Integrated Circuits," IEEE Trans. Nucl. Sci. 47, No. 6, pp. 2165-2174, 2000.
- 2001 P.E. Dodd, M.R. Shaneyfelt, K.M. Horn, D.S. Walsh, G.L. Hash, T.A. Hill, B.L. Draper, J.R. Schwank, F.W. Sexton, and P.S. Winokur, "SEU-Sensitive Volumes in Bulk and SOI SRAMS From First-Principles Calculations and Experiments," IEEE Trans. Nucl. Sci. 48, No. 6, pp. 1893-1903, 2001.
- 2002 M.R. Shaneyfelt, R.L. Pease, J.R. Schwank, M.C. Maher, G.L. Hash, D.M. Fleetwood, P.E. Dodd, C.A. Reber, S.C. Witzcak, L.C. Riewe, H.P. Hjalmarson, J.C. Banks, B.L. Doyle, J.A. Knapp, "Impact of Passivation Layers on Enhanced Low-Dose-Rate Sensitivity and Pre-Irradiation Elevated-Temperature Stress Effects in Bipolar Devices," IEEE Trans. Nucl. Sci. 49, No. 6, pp. 3171-3179, 2002.