IEEE 1981 SISC Technical Program

Technical Program Chairman:
James T. Clemens, Bell Laboratories

9:00 A.M. - Thursday, December 3, 1981

Session I: Metal Silicide Structures
Chairmen: Hy J. Levinstein, Bell Laboratories; and James Plummer, Stanford University

1.1 "Metal Silicide Structures for Use in VLSI Technology" by S. P. Murarka, Bell Laboratories.

1.2 "Epitaxial Silicides and Their Interfaces" by J. M. Poate, J. E. Bean, D. C. Jacobson, J. M. Gibson and R. T. Tung, Bell Laboratories.

1.3 "Electron Beam Study of Silicide Shottky Diodes" by H. C. W. Huang, C. R. Aliotta and P. S. Ho, International Business Machines.

1.4 "Interstitial Transition Metals and Schottky-Barrier Heights at Metal/Silicon Interfaces" by A. Madhukar, University of Southern California; and F. J. Grunthaner, Jet Propulsion Laboratory.

1.5 "Noble Transition Metal Silicides: Trends in the Chemical Bonding in the Bulk and at the Metal/Si Interface" by P. J. Grunthaner and F. J. Grunthaner, Jet Propulsion Laboratory; and A. Madhukar, University of Southern California.

2:30 P.M. - Thursday, December 3, 1981

Session II: Physical Characterization of the Insulator/Si Structure
Chairmen: Edward Poindexter, U.S. Army Electrical Technology and Devices Laboratory; and C. Robert Helms, Stanford University

2.1 "The Detection and Evaluation of Hydrogen at the Si/SiO₂ Interface" by N. Johnson, Xerox.
2.2 "Low Temperature - High Pressure Silicon Oxidation" by E. A. Irene, International Business Machines

2.3 "Thermal Oxidation of Silicon in Dry O₂ in the Thin Regime (<500 Å)" by H. Z. Massoud and J. D. Plummer, Stanford University; and E. A. Irene, International Business Machines

2.4 "Chemistry of Steam Oxidation of Silicon" by J. C. Mikkelsen, Jr., Xerox

2.5 "Properties of Thermal Oxides Grown on Polysilicon Doped In-Situ with Phosphorus" by M. Sternheim, E. Kinsbron, J. Alspector, P. A. Heimann, Bell Laboratories

2.6 "Oxidation-Enhanced Diffusion in Silicon at Short Oxidation Times" by I. Moskowitz and D. A. Antoniadis, Massachusetts Institute of Technology

8:30 A.M. Friday, December 4, 1981

Session II: Continued


2.8 "Structural Changes in SiO₂ Films and at the Si/SiO₂ Interface During Thermal Growth" by A. G. Revesz, Comsat Laboratories

2.9 "Observation of a Large Electrochemical Field in SiO₂ During the Thermal Oxidation of Si" by J. W. Rouse and C. R. Helms, Stanford University

Session III: Electrical Characterization of the Insulator/Si Structure

Chairmen: Dan Di Maria, International Business Machines; and Paul Dressendorfer, Sandia National Laboratories

3.1 "The Current Understanding of Charge Trapping in Oxide Structures" by F. Feigl, Lehigh University
3.2 "Interface Trap Generation in MOS Systems when Electrons are Captured by Trapped Holes" by S. K. Lai, International Business Machines

3.3 "Interface State Generation During Avalanche Injection of Electrons from Si into SiO₂" by Toshio Sunago, S. A. Lyon and Walter C. Johnson, Princeton University

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3.4 "Observation of Radiation Induced Trivalent Silicon Defect Buildup at the Si-SiO₂ Interface in MOS Structures" by P. M. Lenahan, K. L. Brower, and P. V. Dressendorfer, Sandia National Laboratories

3.5 "X-ray Induced Current in MOS Structures: Significance of Contact Injection" by M. R. Chin and T. P. Ma, Yale University

3.6 "Electro-Optical Interface Study of MOS Tunnel Diodes" by Julie A. Shimer and Walter E. Dahlke, Lehigh University

3.7 "Observation of Positively Charged State Generation Near the Si/SiO₂ Interface During Fowler-Nordheim Tunneling" by J. Maserjian and N. Zamani, Jet Propulsion Laboratory

3.8 "The Chemical Structure of Trapped Charge Sites Formed at the Si/SiO₂ Interface by Ionizing Radiation as Determined by XPS" by F. J. Grunthaner, B. F. Lewis, and J. Maserjian, Jet Propulsion Laboratory; and A. Madhukar, University of Southern California

3.9 "Study of Charge Trapping as a Degradation Mechanism in EAROMS" by C. Falcony, D. J. DiMaria, D. W. Dong and K. M. DeMeyer, International Business Machines
8:30 A.M. - Saturday, December 5, 1981

Session IV: Advanced Structures

Chairmen: James Clemens, Bell Laboratories; and Jim Gates, Hughes Aircraft

4.1 "Research and Development in Semiconductor Surface Devices in Japan by N. Kawamura, Nippon Electric

4.2 "Interpretation of XPS Determined GaAs Interface Fermi-Level Position Variations by a Single Defect Model" by R. W. Grant, J. R. Waldrop, Steven P. Kowalczyk and E. A. Kraut, Rockwell International

4.3 "Interface Characteristics of MOSFET's On Silicon Prepared by Zone-Melting Recrystallization of Encapsulated Silicon on SiO2" by E. W. Maby and D. A. Antoniadis, Massachusetts Institute of Technology

4.4 "Current and Temperature Induced Contact Reactions at the A1-(100)Si Interface" by S. Vaidya and A. K. Sinha, Bell Laboratories

4.5 "Cube-Root Broadening of Space-Charge Packets" by K. K. Thornber, D. R. Nelson, and J. A. Cooper, Jr., Bell Laboratories

4.6 "GaAs IGFETS and Two-Dimensional Electrons on MBE Grown AlGaAs/GaAs Heterostructures" by A. C. Gossard, D. C. Tsui, and H. L. Störmer, Bell Laboratories