Thursday Morning (8:30-12:00), December 3, 1987

Session I: Characterization of SiOx and Interfaces

Chairmen: G. Rubloff, IBM, G. Brown, TI, and C.R. Helms, Stanford

I.1 (Invited) Characterization of SiOx on Si by STM: Identification of Individual Trapping Sites, R. Koch, IBM

I.2 Process-Dependent Morphology of the SiO2/Si Interface Characterized by Scanning Tunnel Microscopy, L. Bell, W. Kaiser, M. Hecht, and F. Grunthaner, CalTech

I.3 Effect of Substrate Orientation and Processing on the Distribution of Suboxide Species at SiO2/Si Interfaces, R. Vasquez, P. Grunthaner, F. Grunthaner, and M.H. Hecht, CalTech

I.4 Electrical and Ellipsometric Characterization of the Removal of Surface Damage and Contamination Resulting from Plasma Processing, E.A. Irene, University of North Carolina


I.6 Deep Level Transient Spectroscopy (DLTS) on Single Isolated Interface Traps in MOSFETs, A. Karwath and M. Schulz, University of Erlangen
Thursday Afternoon (2:00-5:30), December 3, 1987

Session II: Radiation and Hot Carrier Effects (I)

Chairmen: J.T. Clemens, AT&T Bell Laboratories, and J. Benedetto, Harry Diamond Laboratories

II.1 (Invited) Interface Damage in MOS Structures due to Radiation and Hot Carriers, J.T. Nelson, AT&T Bell Laboratories

II.2 On the Equivalence between MOS Interface Traps Generated by Radiation Damage and Hot Electron Injection, Y. Nishioka, E. da Silva, and T-p. Ma, Yale University

II.3 Time Dependence of Interface State Formation Following Pulsed Irradiation, N.S. Saks, C.M. Dozier, H.L. Hughes, D.B. Brown, and R. Stahlbush, NRL

II.4 Radiation Response of MOS Capacitors with Oxides Grown in O2 + TCA, Y. Wang, Y. Nishioka, T-p. Ma, and R.C. Barker, Yale University

II.5 A Study of Radiation-Induced Interface States using DLTS Quasi-Static and MOS Transistor Measurements, C. Barnes, T. Zietlow, and M. Newton, The Aerospace Corporation

Thursday Evening (6:00-7:30), December 3, 1987

Session III: POSTER SESSION (posters on display Thursday afternoon through Friday)

Chairmen: W. Carlos, NRL, and E. Fossum, Columbia University

P.1 Influence of Entropy Properties on Measured Trap Energy Distributions at MOS-Interfaces, O. Engstrom, Chalmers University of Technology

P.2 Direct Observation of Energy-Resolved Interface States in Si/SiOx, C.H. Yang, Texas Instruments, and J.M. Sung, Princeton University

P.3 An Approach to a Unified Model of Qot, Dit Build-up due to Stress and Annealing in the MOS-System, F. Wulf and D. Braunig, Hahn-Meitner-Institut

P.4 A New Model for the Thermal Oxidation Kinetics of Silicon, E.H. Nicollian, University of North Carolina and MCNC, and A. Reisman, North Carolina State University and MCNC

P.5 On the Effect of the SiO2-Si Interface Microroughness in Ballistic Electron Transport, A. Aymerich, J. Sune, F. Campabadal, and I. Placencia, Universidad Autonoma de Barcelona


Session III: POSTER SESSION (cont'd.)

P.8 Effects of NF3 During Si Oxidation on the Radiation Response of MOS Capacitors, E. da Silva, Y. Nishioka, and T-p. Ma, Yale University

P.9 On the Correlation between Gate Oxide Rad. Hardness and Hot Carrier Degradation Susceptibility, Y. Nissan-Cohan, H. Woodbury, and C. Wei, General Electric Co.

P.10 Evolution of Trapped Holes in the Vicinity of Si-SiO2, S.J. Wang and S.A. Lyons, Princeton University

P.11 Surface and Interface Electronic Structure of CdTe and HgTe, J.T. Schick, S.M. Bose, Drexel University, and A-B Chen, Auburn University

P.12 Complete Network Analysis of Thin/Thick Oxide Structures as Obtained by Admittance Measurements, W.H. Fahrner, S. Braunig, and S. Ruhl, Hahn-Weitner-Institut

Friday Morning (8:30-12:00), December 4, 1987

Session IV: Interface Modeling and Measurements


IV.1 (Invited) Electronic Structure of Pb Center at SiO2/Si Interface, M. Cook, NRL

IV.2 Study of the Reactions of a New Positively Charged Defect in Device Oxides Damaged by Soft X-rays, B.B. Triplett, T. Takahashi, K. Yokogawa, and T. Sugano, University of Tokyo

IV.3 Admittance of Amphoteric Interface States at the Si-SiO2 Interface, U. Sharma and M. White, Lehigh University

IV.4 The Development and Application of a Si-SiO2 Interface-State Measurement System based on a Staircase Charge-Pumping Technique, J. Chung and R.S. Muller, UCB

IV.5 Stable Photoinduced Paramagnetic Defects in Silicon Nitride, D. Krick and P. Lenahan, Penn. State University, and J. Kanicki, IBM Corp.

Friday Afternoon (4:00-7:00), December 4, 1987

Session V: Radiation and Hot Carrier Effects (II)

Chairmen: Z. Weinberg, IBM, and Y. Nishioka, Hitachi, Japan


V.2 Radiation-Induced Enhancement of Minority Carrier Lifetime in MOS Capacitors Containing TCA Oxides, X.W. Wang, Y. Wang, Y. Nishioka, E. da Silva, and T-p. Ma, Yale University
Session V: Radiation and Hot Carrier Effects (II) (cont'd.)

V.3 The Spectral Distribution of Radiation Induced Interface States in MOSFETs - Orientation Dependence, R.E. Stahlbush and N.S. Saks, NRL

V.4 Comparison of Interface State Generation by Photoinjection in MOS Capacitors on (100) - versus (111) - Oriented Silicon, J.M. Sung and S.A. Lyon, Princeton University, and N.M. Johnson, Xerox Palo Alto Research Center

Saturday Morning (8:30-12:00), December 5, 1987

Session VI: Advanced Structures, Materials and Processes

Chairmen: R. Razouk, Signetic Corp., and L. Manchanda, AT&T Bell Laboratories

VI.1 (Invited) Studies of Interface Traps by Tunneling in Very Thin Oxides, R.A. Buhrman, Cornell University


VI.3 Yttrium Oxide/Silicon Dioxide: A New Dielectric Structure for VLSI/ULSI, L. Manchanda and M. Gurvitch, AT&T Bell Laboratories


VI.5 Effects of Processing Conditions on the Current Enhancement Properties of Si-rich Silicon Nitride Based Injectors, C. Kaya, T-p. Ma, and R.C. Barker, Yale University