Seth D. Kosowsky

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Education

Harvard University Ph.D., Physics, 1995
Thesis title: "X-ray scattering and the study of buried interfaces"
Advisor: Peter Pershan

Harvard University MA, Physics, 1992

Columbia College BA, *summa cum laude*, May 1988

Experience

Research Assistant, Harvard University 1989–present
Graduate student in experimental solid-state physics. Investigated interfacial structure of MBE deposited SiO_x/Si/Ge(001) and thermal/steam grown thin-oxide p-Si/SiO_2/Si(001) capacitors as part of a collaboration with AT&T Bell Labs. Implemented wet-chemical etching process to smooth Si(111) samples. Studied new high-pressure phase of fullerite, demonstrating that it contained no diamond. Also participated in wetting studies of Si by thin cyclohexane films and on the stucture of organic monolayers on Si.

Conducted x-ray scattering experiments at National Synchrotron Light Source (Brookhaven National Lab, NY) including writing proposals and triannual updates, and at Harvard using a Rigaku rotating anode. Performed automated data collection utilizing GPIB and CAMAC electronics. Maintained UHV and HV vacuum systems.

Teaching Fellow, Harvard University 1988-1990
Taught problem solving and laboratory sessions for introductory mechanics and electromagnetics classes at advanced and elementary levels. Headed "Physics Question Center" for students (1989-1990).

Computer Experience

- UNIX System Administrator (BSD, SCO, SVR4). Designed and installed PC-based UNIX systems.
- C, QuickBASIC and Pascal languages; DOS and Macintosh OS
- LaTeX

Awards and Affiliations

- Harold White Award for excellence in teaching (Harvard, 1989)
- Alfred Moritz Michaelis Prize in Physics (Columbia, 1988)
- Phi Beta Kappa (1988)
- APS (since 1988), MRS (since 1992)

Other

- Administrator of local charitable fund (1991-present).
- Enjoy skiing and crossword puzzles.

Publications

1. "An X-ray Study of SiO_x/Si/Ge(001)," S.D. Kosowsky, C.-H. Hsu, P.S. Pershan, J. Bevk, B.S. Freer., to be published in *App. Surf. Sci.* 84, 179 (1995).
2. "X-Ray Scattering Studies of SiO_x/Si/Ge(001)," S.D. Kosowsky, C.-H. Hsu, P.S. Pershan, J. Bevk, B.S. Freer. *Materials Res. Soc. Symp. Proceedings*, vol. 326, 221 (1994).
3. "X-ray study of pressure collapsed fullerite," S.D. Kosowsky, C.-H. Hsu, Nancy H. Chen, Fred Moshary, P.S. Pershan and Isaac F. Silvera. *Phys. Rev. B* 48, 8474 (1993).
4. "X-ray specular-reflectivity study of the liquid-vapor density profile of ^{4}He," L. B. Lurio, T.A. Rabedeau, P.S. Pershan, Isaac F. Silvera, M. Deutsch, S.D. Kosowsky and B.M. Ocko. *Phys. Rev. B* 48, 9644 (1993).
5. "Liquid-Vapor Density Profile of Helium: An X-Ray Study," L. B. Lurio, T.A. Rabedeau, P.S. Pershan, Isaac F. Silvera, M. Deutsch, S.D. Kosowsky and B.M. Ocko. *Phys. Rev. Lett.* 68, 2628 (1992).
6. "X-ray grazing incidence diffraction from alkylsiloxane monolayers on silicon wafers," I.M. Tidswell, T.A. Rabedeau, P.S. Pershan, S.D. Kosowsky, J.P. Folkers and George M. Whitesides. *J. Chem. Phys.* 95, 2854 (1991).
7. "The Complete Wetting of a Surface," I.M. Tidswell, T.A. Rabedeau, P.S. Pershan, S.D. Kosowsky, *Phys. Rev. Lett.* 66, 2108 (1991).