David W. Donnelly

Texas State University, Department of Physics, 601 University Dr., San Marcos, TX 78666

PERSONAL

Born March 5, 1961, San Jose, CA
Married, 2 children

EDUCATION

- B. A., Physics, University of California at Berkeley, 1984
- Ph.D., Physics, University of California at Santa Barbara, 1990

EMPLOYMENT

- Professor, Texas State University – San Marcos TX (Sept. 2002 – Present)
- Associate Professor, Southwest Texas State University, San Marcos, TX (Aug. 2000–Aug. 2002)
- Associate Professor, Sam Houston State University, Huntsville, TX (Sept. 1998-July, 2000)
- Assistant Professor, Sam Houston State University, Huntsville, TX (Jan. 1992-Sept. 1998)
- Staff Researcher, QUEST, U. C. Santa Barbara (Apr. ‘91-Nov. ‘91)
- Research Assistant, Dept. of Physics, U. C. Santa Barbara (Jan. '87-Dec. '90)
- Teaching Assistant, Dept. of Physics, U. C. Santa Barbara (Sept. '85-Dec. '86)

CURRENT RESEARCH

- Study of athermal annealing in silicon
- Study of defect and impurity clustering in heavily implanted silicon
- Study of the effects of CMP on the electrical characteristics of low-k films.
- Study of ordering of diblock copolymers on silicon surfaces
- Student perceptions of the origin of the gravitational force
- Study of pyro-optic properties of SbSI

SELECTED PUBLICATIONS

"Athermal Annealing of Silicon", J. Grun, C. K. Manka, C. A. Hoffman, J. R. Meyer, O. J. Glembocki, S. B. Qadri, E. F. Skelton, D. Donnelly, B. Covington, *Proceedings of the Materials Research Society, Symposium D, Volume 510, p. 395*

"Athermal Annealing of Silicon Implanted with Phosphorus and Arsenic", J. Grun, R. P. Fischer, M. Peckerar, C. L. Felix, B. C. Covington, D. W. Donnelly, B. Boro Djordjevic, R. Mignogna, J.R. Meyer, A. Ting, and C. K. Manka, *Rapid Thermal and Other Short Time Processing Technologies I*, Volume 2000-9,pg. 107, F. Roozeboom, J.C. Gelpey, M.C. Ozturk, K. Reid, and D.L. Kwong editors

"Athermal Annealing of Phosphorus-Ion Implanted Silicon", J. Grun, R. Fischer, M. Peckerar, C. Felix, B.C. Covington, M. Fatemi, B. Desisto, O. J. Glembocki, D. W. Donnelly, T. Ting, and C. K. Manka, *Appl. Phys. Lett.*, **77**, 1997 (2000)

"Athermal Annealing of Low-Energy Boron Implants in Silicon", D. W. Donnelly, B. C. Covington, J. Grun, R. P. Fischer, M. Peckerar, and C. L. Felix, *Appl. Phys. Lett.*, **78**, 2000 (2001)

"Athermal Annealing of Ion Implanted Silicon", D. W. Donnelly, B. C. Covington, J. Grun, R. P. Fischer, M. Peckerar, C. L. Felix, B. Boro Djordjevic, R. Mignona, J. R. Meyer, A. Ting, and C. K. Manka, P*roceedings of the IEEE 9th Conference on Rapid Thermal Processing (RTP Conference, 2001).*

"Infrared Spectroscopy of Epitaxial Antimony Sulfo Iodide Thin Films"S. Kotru, S. Surthi, R. K. Pandey, and D. Donnelly, *Proceedings of the Materials Research Society, vol. 688, 2002 (Materials Research Society)*.

"Laser-Plasma Simulations of Astrophysical Phenomena and Novel Applications to Semiconductor Annealing", J. Grun, M. Laming, C. Manka, D.W. Donnelly, B.C. Covington, R.P. Fischer, A. Velikovich, and A. Khokhlov, *Laser and Particle Beams* **21**, (2003).

FUNDED PROPOSALS

"Impurity Associated Magnetic Modes in Antiferromagnets", $25,500.00, Research Corporation, 1993

"Shock Annealing: A New Non-thermal Annealing Process Using Laser Generated Shocks", $636,200.00 between Naval Research Labs and Sam Houston State University from Advanced Research Projects Administration, 1995

"3d Transition Metal Impurities in Antiferromagnetic Ferrous Fluoride", $107,508.00, Texas Higher Education Coordinating Board, 1998

"A Non-Thermal Annealing Technique applied to Neutron Transmutation Doped Silicon", $125,603 From National Science Foundation, July, 1998

"Dissemination of Proven Reforms", $100,000.00 with Texas A&M University, Sept, 1998, Department of Education

“Athermal Annealing of Ion-Implanted Silicon”, $143,770.00 from National Science Foundation, September, 2001

“Effects of Chemical Mechanical Planarization on Electrical Properties of Low-k Materials”, $130,000.00 from Texas Higher Education Coordinating Board, January, 2002 (Co-PI with Dr. Heather Galloway)

“MRI: Acquisition of FTIR and AFM for Materials Characterization”, $370,705 from National Science Foundation (Co-PI with Dr. Heather Galloway)

PATENT

“A New Non-Thermal Process for Annealing Crystalline Materials”

PROFESSIONAL MEMBERSHIPS

American Physical Society

Member of Texas Section

Member of Forum on Physics and Society

Member of Topical Group on Shock Compression of Condensed Matter

American Association of Physics Teachers

Vice President, Texas Section, 1997-98

President-elect, Texas Section, 1998-99

President, Texas Section, 1999-2000

Past President, Texas Section, 2000-2001

Section Representative, Texas Section, 2000-2004

Society of Physics Students

Councilor, Zone 13