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ABSTRACT DEADLINE: NOVEMBER 1, 2005

REMINDER: *In fairness to all potential authors, late abstracts will not be accepted.*

MRS Symposium B: Silicon Carbide—Materials, Processing, and Devices

Advances in silicon carbide materials, processing, and device designs have accelerated progress towards wide-spread production of SiC-based electronic systems and offer great promise for high-voltage, high-temperature, high-frequency applications. This symposium will examine new developments in the basic science of SiC materials, as well as rapidly maturing SiC device and processing technologies. The challenges in this field include understanding and decreasing defect densities in bulk SiC crystals; controlling surface morphology, residual impurities, and extended defects in SiC epilayers; continued discovery and optimization of unit-step processing technologies, including ion implantation, oxidation, etching and contacts; and developing, fabricating, and testing innovative device structures and concepts.

This symposium will bring together crystal growers, materials engineers, modelers, and device physicists needed to continue the rapid pace of silicon-carbide-based technology.

Topics of particular interest include, but are not limited to:

- Bulk SiC growth (including large-diameter crystals), modeling, and characterization
- Epitaxial growth (doping control, morphology development, carrier lifetimes, etc.)
- Advances in ion implantation
- Improved ohmic and rectifying contacts
- Oxidation and alternative dielectric materials
- Devices (high-voltage, high-temperature, high-frequency sensors and system level benefits)
- Surfaces and interfaces
- Advances in porous SiC technology
- SiC material, device, and interface characterization and theory

Invited speakers include (partial list): **A. Cavallini** (Univ. di Bologna, Italy), **H.R. Chang** (ASCE Power), **L. Feldman** (Vanderbilt Univ.), **M. Loboda** (Dow Corning Corp.), **P. Neudeck** (NASA Glenn Research Ctr.), **N. Ohtani** (Nippon Steel Corp., Japan), **R. Okojie** (NASA Glenn Research Ctr.), **M. Pons** (LTPCM, ENSEEG, France), **S.E. Saddow** (Univ. of South Florida), **N.T. Son** (Linköping Univ., Sweden), **A. Souzis** (II-VI Inc.), **U. Starke** (Max-Planck-Inst., Germany), and **J.J. Sumakeris** (Cree Inc.).

Symposium Organizers

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