Oral Presentations and Posters at ICSCRM 2024 with Research Results of Fraunhofer IISB

Status as of August 12, 2024

Challenges of transient virtual junction temperature measurement of SiC MOSFETs by VSD(T) method for power cycling – a study on impact factors
Jakob Breuer, Fabian Dresel, Andreas Schletz, Jürgen Leib, and Bernd Eckardt
Session 20B: Reliability & Robustness

Non-contact full wafer imaging of electrically active defects in 4H-SiC epi with comparison to end of line electrical device data
Firas Faisal, Nils Steller, Robin Karhu, Birgit Kallinger, Gennadi Polisski, Marshall Wilson, Alexandre Savtchouk, Liliana Gutierrez, Carlos Almeida, and Jacek Lagowski
Session 10: Posters 2

Study on epi performance of engineered 150 mm and 200 mm SiC substrates in a multi-wafer batch reactor
Philip Hens, Kevin Albrecht, Birgit Kallinger, Robin Karhu, and Jürgen Erlekampf
Session 8A: Engineered Substrates

Homoepitaxy of 4H-SiC on a-plane substrates
Robin Karhu, Michael Pfeffer, Jannik Schwarberg, Paul Wimmer, and Birgit Kallinger
Session 18: Posters 4

Bipolar degradation driven by junction-temperature controlled power cycling milliseconds (PCmsec) in silicon carbide power devices
Sibasish Laha, Juergen Leib, Dawei Zhao, Andreas Schletz, Martin Maerz, Christian Liguda, and Davood Momeni
Session 20B: Reliability & Robustness

Trench shape dependence of stress distribution in 4H-SiC trench MOSFET test structures by scanning near-field optical Raman microscope
Tatsuhiro Nagasaka, Tomoyuki Uchida, Masataka Murakami, Masanobu Yoshikawa, Minwho Lim, Oleg Rusch, and Mathias Rommel
Session 14: Posters 3

On the relationship of processing parameters and epitaxial defects to extrinsic failure in SiC gate oxide
Holger Schlichting, Tom Becker, Leander Baier, Mathias Rommel, and Tobias Erlbacher
Session 14: Posters 3

TaC-based protective coating systems adapted on graphite materials with different thermal expansion for the use in SiC PVT crystal growth
Kevin Schuck-Buehner, Matthias Trempa, Michael Lang, Jochen Friedrich, Dirk Mützenich, and Torsten Kornmeyer
Session 7A: Bulk Growth 1

ALD deposited SiO_2 dielectric stack with engineered interface using in-situ atomic layer annealing for high performance SiC MOSFET
Andrii Voznyi, Tatiana Ivanova, Mikko Söderlund, Alexander Perros, Patrick Rabinzohn, Alexander Schmid, and Franziska Beyer
Session 4B: Advanced Features in SiC MOSFETs

Photoelastic measurement of residual stress in 4H-SiC substrates for evaluation of crystal growth and wafering process
Paul Wimmer, Henning Katte, Christian Reimann, and Christian Kranert
Session 11A: Characterization II