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*Invited Paper
PREFACE

Symposium G, “Reliability and Materials Issues of II-VI and III-V Semiconductor Optical and Electron Devices and Materials II”, was held April 9 – April 13 at the 2012 MRS Spring Meeting in San Francisco, California.

Achieving high reliability is a key issue for semiconductor optical and electrical devices and is as important as device performance for commercial application. Degradation of both optical and electrical devices is strongly related to the materials issues. A variety of material defects can occur during the device fabrication processes, i.e., crystal growth, impurity diffusion, ion-implantation, wet/dry etching, metallization, bonding, packaging, etc.

This symposium presented the state-of-the-art results on reliability and degradation of various semiconductor optical and electrical devices as well as their materials issues in thin-film growth, wafer processing, and device fabrication processes.

This proceedings volume includes papers presented in the following sessions of Symposium G during the meeting:

- Laser Reliability and Defects
- LEDs and Crystal Growth
- Crystal Growth
- Characterization and Theoretical Calculation
- Recombination Enhanced Point Defect Reaction
- HEMT Reliability
- Electron Devices and Reliability
- Radiation Effect and Electron Devices
- Solar Cells and TFTs
- Novel Structures

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Finally, they are deeply indebted to the Materials Research Society staff, as well as the Spring Meeting Chairs, for the development of an outstanding conference.