



Physikalisches Kolloquium

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InAlGaN-based UV LEDs – applications and challenges

Group III-nitride based ultraviolet (UV) emitters have recently gained considerable interest due to a multitude of applications that may benefit from the availability of UV semiconductor light sources, including, water purification, UV curing, medical diagnostics, and phototherapy. Meanwhile a number of groups have reported AlGaN and InAlGaN multiple-quantum-well (MQW) light emitting diodes (LEDs) emitting in the near and deep UV spectral range. However, the performance of GaN-based UV LEDs is still inferior to their visible wavelength counterparts with maximum external quantum efficiencies around one percent and output powers in the sub-mW range. We will discuss recent progress in the development of high-efficiency UV light emitting diodes and examine some of the performance limiting factors, including the effects of threading dislocations on the internal quantum efficiency and new approaches to enhance light extraction from deep UV LEDs.

Einladender: Prof. Dr. Alois Krost

Gäste sind herzlich willkommen!