



White light emission from engineered silicon carbide

Ou, Haiyan

Publication date:
2017

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):
Ou, H. (2017). *White light emission from engineered silicon carbide*. Abstract from 14th China International Forum on Solid State Lighting, Beijing, China.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

White light emission from engineered silicon carbide

Haiyan Ou

Ørstedss plads, Building 343, Department of Photonics Engineering, Technical University of
Denmark, 2800, Kgs.. Lyngby, Denmark

Silicon carbide (SiC) is a wide indirect bandgap semiconductor. The light emission efficiency is low in nature. But this material has very unique physical properties like good thermal conductivity, high break down field etc in addition to its abundance. Therefore it is interesting to engineer its light emission property so that to take fully potential applications of this material. In this talk, two methods, i.e. doping SiC heavily by donor-acceptor pairs and making SiC porous are introduced to make light emission from SiC. By co-doping SiC with nitrogen and boron heavily, strong yellow emission is demonstrated. After optimizing the passivation conditions, strong blue-green emission from porous SiC is demonstrated as well. When combining the yellow emission from co-doped SiC and blue-green from porous SiC, a high color rendering index white light source is achieved.