



Einladung

- Es spricht: **Dr. Arnab Bhattacharya**
Tata Institute of Fundamental Research,
Mumbai / Indien
- Zeit: **Dienstag, 29. Juni 2010, 15:00 Uhr c.t.**
- Ort: **Technische Universität Berlin
Institut für Festkörperphysik
Hardenbergstraße 36, 10623 Berlin
Raum EW 561**
- Thema: **„MOVPE growth and characterization of
non-polar nitrides”**

Abstract:

Given the undesirable spontaneous and piezoelectric polarization fields that impair device performance in c-plane oriented III-nitride materials, there is a lot of current research on the growth of III-nitride layers in crystal orientations with no polarization field in the growth direction such as the a-plane or m-plane. We have recently reported the growth of a-plane AlGa_N epilayers across the entire composition range as well as the growth of a-plane InN and performed detailed studies of the microstructure of such layers.

Non-polar nitride epilayers encounter anisotropic in-plane strain due to the anisotropy in the lattice and thermal mismatch with the substrate or buffer layer. Such anisotropic strain results in an orthorhombic distortion of the wurtzite unit cell. We outline a relatively simple procedure for measurement of lattice parameters of non-polar group III-nitrides epilayers from high resolution x-ray diffraction measurements and for determining the Al-content of the film taking into account the anisotropic strain. We have also synthesized nearly-lattice-matched-plane AlInN epilayers and fabricated DBR structures from them.

Gäste sind herzlich willkommen!
Prof. Dr. M. Kneissl