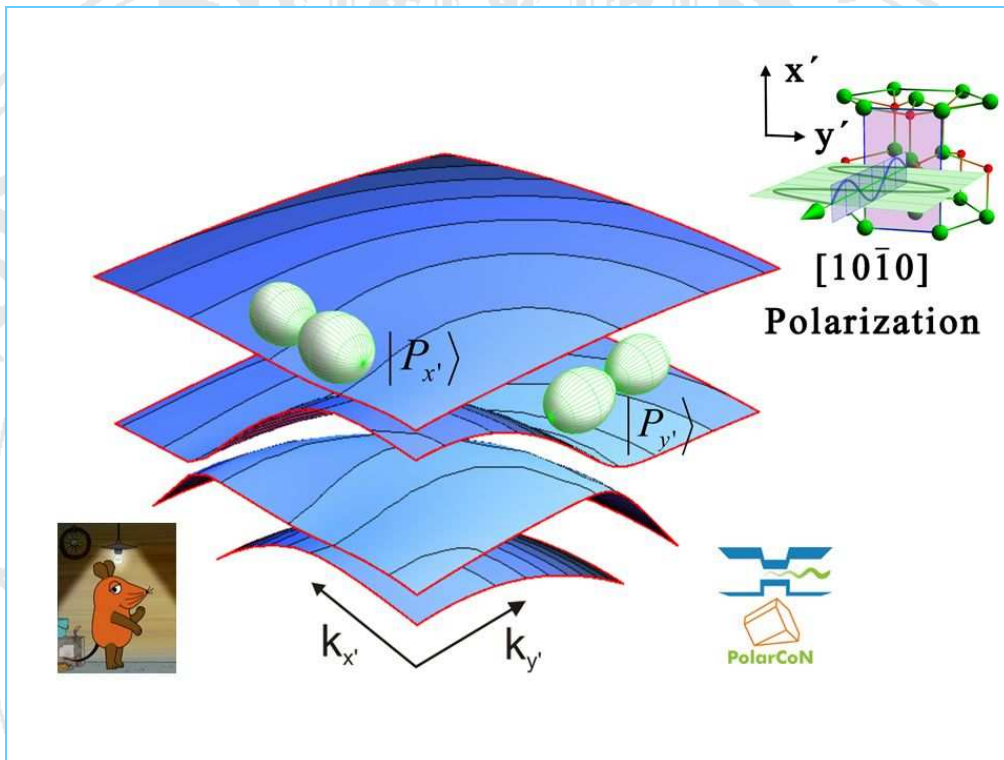


PHYSIKALISCHES KOLLOQUIUM

AM 13. JANUAR 2014 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



Polarized light emitted from a nonpolar InGaN quantum well meets a mouse contemplating on LEDs for general lighting and a blue laser diode "made by IAF"

POLARIZATION IN INGAN QUANTUM WELLS

PROF. DR. ULRICH T. SCHWARZ

*INSTITUT FÜR MIKROSYSTEMTECHNIK, UNIVERSITÄT FREIBURG
 UND FRAUNHOFER IAF, FREIBURG*

Light emitting diodes (LEDs) ranging from high-power, high efficiency ones for solid-state lighting to tiny micro-LEDs used for stimulation of nerve cells in the field of optogenetics as well as laser diodes in the violet-blue-green part of the light spectrum have one thing in common: they are based on spontaneous electroluminescence and stimulated light emission in quantum wells made from the semiconductor Indium-Gallium-Nitride (InGaN). Due to their crystal symmetry, all group-III-nitrides (AlN, InN, GaN) and their compounds are ferroelectric, piezoelectric, and optical birefringent. I will discuss these effects and their impact on the physical properties of the above mentioned devices.