



ZnO single crystal and epitaxial thin film studied by second harmonic generation and photoluminescence

**G. Buinitskaya, L. Kulyuk, V. Mirovitskii, E. Rusu,
E. Mishina, N. Sherstyuk**

<https://doi.org/10.1016/j.spmi.2005.08.076>

Abstract

Zinc oxide thin nanostructured film and single crystal were studied by photoluminescence (PL) and optical second harmonic generation (SHG). The single crystal reveals a strong blue excitonic luminescence, while for thin films “yellow”-defect PL is dominant, pointing to a strong contribution from the surface of film nanograins. In SHG the bulk contribution is dominant for both film and single crystal, although SHG enhancement was found in the film. Nonlinear parameters were calculated from the model and preferable orientation of the film grains was found.