

PHOTOEMISSION STUDY OF HF ETCHED InP NANOCRYSTALS

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Abstract: Two types of highly luminescent InP nanocrystals were investigated by photoelectron spectroscopy with the use of synchrotron radiation. One method to achieve high photoluminescence quantum yields is epitaxial overgrowth. We have studied InP nanocrystals covered with ZnS. The XPS results confirm the core-shell structure of the composite nanocrystals and allow us to extract average layer thickness. Another approach to prepare highly luminescent nanoparticles is etching techniques. We have investigated In 3d and P 2p core level spectra InP nanocrystals treated with HF.

Key words: nanostructures, semiconductors, synchrotron radiation, interfaces.

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