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Optical Absorption and Photoluminescence Measurements in InP and InP:Fe Bulk Crystals and  
Inspection of the Relations Between these Measurements

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**Abstract:** Optical absorption and photoluminescence (PL) measurements were carried out in both undoped and Fe-doped samples and the effect of Fe doping on absorption and PL spectra were studied. The results show that Fe or Fe-related defects behave as non-radiative recombination centers in InP. This is very important from the point of view that the control of minority carrier lifetime is possible. On the other hand, comparative analysis of the PL results with the optical absorption data show that quantitative assessment of relative PL intensities is possible with respect to Fe concentrations.

**Key Words:** InP, InP:Fe, photoluminescence, absorption, semi-insulating, band gap narrowing

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