

**MOHMAD, ABDUL RAHMAN BIN**

(University of Sheffield UK)

*Photoluminescence Investigation of bulk GaAsBi on GaAs*

Abstract: The photoluminescence (PL) from a GaAsBi sample with Bi concentration of 2.7% is investigated as a function of excitation power and temperature. The PL peak energy and linewidth are dependent on the pump power at low temperature but becomes independent at room temperature. The PL peak energy also shows the S-shape behaviour with temperature. These observations are attributed to the presence of localised states associated with Bi clusters near the top of the valence band. The FWHM exhibit a maximum at 100 K and linewidth as narrow as 75 meV is measured at room temperature.