

Response to the comment on “Blue light emission from barium doped zinc sulphide nanoparticles”



1. Introduction

To determine the optical band gap, we used Tauc's model. This is popular technique for determining the optical band gap. Straight line portion of the curve, when extrapolated to zero gives the optical band gap. In Tauc's method drawing a straight line is arbitrary [1]. In our work [2], characteristic absorption peaks due to undoped and ZnS:Ba nanoparticles appear in the wavelength range 240–340 nm. For Ba doped ZnS the optical band gap is 4.10 eV (303 nm). There are many reports in literature with similar absorption spectra and band gap value [3–6].

Like all experimental method, this method also has some inaccuracy. The fundamental absorption, which corresponds to excitation of electron from the valance band to conduction band, can be used to determine the nature and optical band gap.

References

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