Optical properties and colour purity of Eu doped BAM

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**Abstract**. We have synthesized Eu3+ doped BaMgAl12O19 nanophosphors, which can be used as red phosphors for display panels. Eu3+ doped Ba(1-*x*)MgAl10O17:Eu*x* (*x*=0.0, 0.1, 0.2, 0.4, 0.5 and 0.6) were synthesized by chemical route by varying Eu concentration. Structural information of prepared nanophosphors was elucidated by X-ray diffraction. 120 MeV Ag9+ ions were used for ionoluminescence (IL) measurements to study its optical properties. The IL results shows that the luminescence intensity increases with increasing Eu doping up to 4% followed by a reduction indicating concentration quenching of luminescence. Luminescence data were used to plot CIE chromaticity diagram to extract the information about the colour purity of the prepared materials.

References:

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