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(57) Abstract :
The present invention relates toaprocess for synthesis of white light emitting single host phosphor. The object of the proposed invention is to synthesize powder phosphor Sr3Y2(BO3)4 doped with rare earth ion Sm2+ by modified solution combustion method. The powder XRD pattern of the synthesized phosphors matches with standard reported ICDD Card No.01-073-7307.The average crystallite size of the phosphors is calculated using Scherrer™s equation, Hall-Williamson plot and it is in nanometre. Element composition is confirmed from SEM- EDS. The PL spectra of Sr3Y2-x(BO3)4 doped with rare earth ion Sm2+ are recorded at room temperature under near UV-NUV excitation. At 360 nm excitation Sr3Y2-x(BO3)4:xSm2+shows emission observed board band from 250nm to 625nm and peaking at 482 nm which results in complete white color.Following invention is described in detail with the help of Figure 1 of sheet 1 showing XRD pattern of Sr3Y1.98(BO3)4:0.02 Sm2+.

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