

### Properties of $Y_2SiO_5:Tb$ phosphor prepared by flame spray pyrolysis compared with by spray pyrolysis

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Green emitting  $Y_2SiO_5:Tb$  phosphor particles were synthesized by flame spray pyrolysis and conventional spray pyrolysis process. The particles prepared by flame spray pyrolysis showed better morphology -dense, spherical- rather than spray pyrolysis process. The effects of composition of precursor solutions on morphology and crystal structure were investigated. Phase transformation from X1 to X2 occurred above 1300°C. The photoluminescence characteristics of  $Y_2SiO_5:Tb$  phosphor particles were changed with doped Tb composition. The PL intensities were varied with different Tb composition. The optimum concentration of Tb needed to find out. The crystal structure and morphology of the particles were investigated by XRD (X-ray diffraction), SEM (Field-emission Scanning electron microscope), respectively.