PT-P06

Production of nanocrystalline Y_2O_3:Eu powder by microwave plasma-torch and its characterization

김예슬, 조순천, 엄환섭

아주대학교 분자과학기술학과

Y_2O_3:Eunanophosphorswere synthesized directly by dissolving Y_2O_3 and EuO2 in HNO_3inan atmospheric microwave-plasma torchfor a direct continuous preparation and mass production of Y_2O_3:Eupowders. The Y_2O_3:Eu phases obtained were characterized by X-ray powder diffraction (XRD), scanning electron microscopy (SEM). Also, Investigated optical properties are the photoluminescence emission spectra. The mean size of the nanophosphors was in the range 25.5~43.7nm, and showed a narrow size distribution, high crystallinity and special luminescent properties. Compared with the phosphors prepared by mixing rates ratio of EuO_2, the quenching concentration of 9.9 g was is higher than others.