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Photoluminescence Characteritics of Electrosprayed Eu(III) Doped Y2O3 Nanorods on a Si Substrate

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Eu(III)-doped Y2O3 nanorods were deposited onto a Si substrate using electrostatic spray system. The photoluminescence imaging profiles were compared between the electrospray film and powder form. Using electrostatic spraying technique is very advantageous to generate a uniform monolayer film without much clustering of nanorods. Strong emission peaks were observed between 580 and 730 nm in response to an indirect excitation transition. Our results indicate that the electrospray technique could be very useful for generating thin films for displays and sensors.

Keywords: Y2O3, electrostatic spray, photoluminescence