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The Study of the Fluorescent Spectrum of Cd-Se Quantum Dots in Liquid Crystal Cell[1] YU-SUNG LIN, Department of Physics, National Sun Yat-sen University, Kaohsiung, 804, Taiwan, WEN-CHI HUNG, WOOD-HI CHENG, Institute of Electro-Optical Engineering, National Sun Yat- sen University, Kaohsiung, 804, Taiwan, I-MIN JIANG, Department of Physics, National Sun Yat-sen University, Kaohsiung, 804, Taiwan, MING-SHAN TSAI, Department of Applied Physics, National Chiayi University, Chiayi, 600, Taiwan — We report the analysis of the fluorescent spectrum of Cd-Se quantum dots in liquid crystal matrices. The cell is filled with the commercial liquid crystal (E7) in homogeneous alignment. We can vary the director field orientation of liquid crystals by applying electrical fields. With a light source of a xenon lamp to excite the Cd-Se quantum dots, the effect on the fluorescent spectrum due to liquid crystal environment is then explored. The shift of fluorescent spectrum affected by the concentration of Cd-Se quantum dots is also discussed in the report. Then the Cd-Se quantum dots are excited by use of a monochromatic Nd-YAG laser, which is a polarized light source. We explore the effects of polarization on fluorescent spectrum of Cd-Se quantum dots also.

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I-min Jiang
Department of Physics, National Sun Yat-sen University, Kaohsiung, 804, Taiwan

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