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Electric field modulated optical saturation absorption of CdSe quantum dots BIN SHI, ZUOMING ZHAO, PAK-SAM CHANG, YA-HONG XIE, Department of Materials Science and Engineering, University of California at Los Angeles, Box 951595, Los Angeles, California 90095-1595, CHANDER RADHAKRISHNAN, HAROLD MONBOUQUETTE, Department of Chemical Engineering, University of California at Los Angeles, Box 951595, Los Angeles, California 90095-1595 — We study the nonlinear optical absorption of CdSe quantum dots in different external electrical. The absorption of CdSe quantum dots clearly shows saturation absorption behavior with incident light wavelength shorter than the absorption edge of CdSe quantum dots, while the saturation intensity changes with external electrical field. The origin of such a decrease of saturation intensity with increased external field is discussed. The application of the dependence of saturation absorption on electrical field is also discussed.

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