

Abstract Submitted
for the CAL10 Meeting of
The American Physical Society

Self Assembly of CdSe Quantum Dots in Cholesteric Liquid Crystal ANDREA RODARTE — Controlled self assembly of quantum dots (QDs) over macroscopic scales is important to realizing the potential for new optical applications. Here we suspend CdSe quantum dots in a cholesteric liquid crystal and investigate the ordering of the QDs when loaded into a Grandjean-Cano wedge cell. We use polarized optical microscopy and scanning microscopy photoluminescence measurements to obtain information about the dispersion and emission of the QDs. We find that the wavelength and intensity of the polarized QD emission is modulated by the Grandjean steps of the liquid crystal texture. These results demonstrate how the LC texture can affect the arrangement and emission of the QD nanoparticles.

Andrea Rodarte
University of California, Merced

Date submitted: 01 Oct 2010

Electronic form version 1.4