

# **II-VI Semiconductor Quantum Dot Heterostructures for Visible Emission Applications**

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In recent years there has been increasing effort in the development of semiconductor quantum dots (QDs). Technological applications such as the stimulated emission of QD-structures, high intensity displays, and the possibility of QD-laser with ultra low threshold motivate this trend.

The tuning of the emission of QD structures makes possible to produce light of specific wavelengths within certain limits, these limits are determined by the QD and barrier properties. Wavelengths for optical communications and for visible applications are of huge interest for many practical reasons. In the case of visible applications, it is highly desired to have a QD system that allows an easy control of the main wavelengths visible spectrum (red, green and blue).

In this talk, I will present the fundamentals of the growth and characterization of CdSe/ZnCdMgSe QDs structures and their potential use for light sources in entire visible spectrum, full color displays and white sources.