Abstract Submitted
for the OSS16 Meeting of
The American Physical Society

Synthesis of nearly Monodispersed Nanocrystals via Colloidal Atomic Layer Deposition(c-ALD) PRAKASH ADHIKARI, MIKHAIL ZAMKOV, Bowling Green State University — Due to the overwhelming demand, the need of miniaturization of the semiconductor devices is growing. Nanocrystals, with properties different from those of the corresponding bulk structures, can be building blocks for the next generation of technology. However, polydispersity in size and shape, less control over the nanocrystal stoichiometry, surface chemistry defects, poor crystallinity, etc., are some of the reasons that inhibit use of nanocrystals in a wide variety of applications. In our lab, we have demonstrated a general strategy to synthesize monodispersed quantum dots exhibiting a size dispersion below 5%. So, this presentation will be about the underlying notions about the growth of high quality nearly monodispersed nanometer size crystallites, with emphasis on CdS.

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Date submitted: 16 Mar 2016 Electronic form version 1.4