

Abstract Submitted  
for the OSF16 Meeting of  
The American Physical Society

**Understanding the growth mechanism of PbSe Nanorods YITENG**

TANG, Bowling Green State University, SHAIENDRA CHILUBA, Clemson University — Colloidal nanomaterials have been of great interest due to their unique optoelectronic properties. The shape and size tuning of the nanomaterials at nanometer scale results in novel optical and electronic properties. Due to a high conductivity and large multiple exciton generations, PbSe nanorods are considered great for optoelectronic applications. We have developed a procedure for nanorods synthesis. TEM images, photoluminescence, absorption and PL lifetime peaks show that the rods produced are of high quality. We have studied the role of temperature and growth time on size tuning of PbSe nanorods. We have also studied the effect of the amount of chloroalkane, the ratio of oleic acid to lead, the amount of acetic acid and water on PbSe nanorod.

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Date submitted: 12 Sep 2016

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