

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Sonoelectrochemical

Approach Towards Nanostructures CLEMENS BURDA, XIAOFENG QIU, Case Western Reserve University — We will report on the sonoelectrochemical synthesis of nanostructured semiconductor materials. The talk will focus on the control of the nanostructure size, shape, and composition using sonoelectrochemistry as a versatile synthesis tool. The synthesis of targeted nanostructures requires thorough control of the redox chemistry during the growth process. The composition of the product can be controlled by changing the initial metal-ligand concentration. Furthermore, the properties of the novel materials will be discussed. Powder X-ray diffraction of the products confirmed the compositional change in the nanomaterials. Control of the involved sonoelectrochemistry also allows for the formation of highly monodispersed 1-D Nanorods. Qiu, Xiaofeng; Lou, Yongbing; Samia, Anna C. S.; Devadoss, Anando; Burgess, James D.; Dayal, Smita; Burda, Clemens. **PbTe nanorods by sonoelectrochemistry.** *Angewandte Chemie, International Edition* (2005), 44(36), 5855-5857. Qiu, Xiaofeng; Burda, Clemens; Fu, Ruiling; Pu, Lin; Chen, Hongyuan; Zhu, Junjie. **Heterostructured Bi₂Se₃ Nanowires with Periodic Phase Boundaries.** *Journal of the American Chemical Society* (2004), 126(50), 16276-16277.

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Date submitted: 13 Dec 2005

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