

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Precision Bandgap Control of Titanium Dioxide Nanoparticles by Ultrasonication ROBBY FLAIG¹, LESTER LAMPERT, JORGE CAMACHO, JAMES HAMILTON, University of Wisconsin-Platteville — TiO₂ is a commonly used material in many areas of industry including photocatalysis and pigments. Band gap narrowing and particle size are engineered with a high level of control. We report precision bandgap control by ultrasonication in novel stable solvent systems in which unmodified TiO₂ can be suspended. The effects of ultrasonication in these unique solvent systems are monitored by optical band gap (UV-Vis), scanning electron microscopy (SEM), atomic force microscopy (AFM), and x-ray diffraction (XRD).

¹Nanotechnology Center for Collaborative Research & Development

Robby Flaig
University of Wisconsin-Platteville

Date submitted: 28 Nov 2010

Electronic form version 1.4