InVO4 (4 should be suffix) Abstract Submitted

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Visible Light Photocatalysis via TiO_2-Xwt% $InVO_4$ nanocomposites.[1] ERIC VICKERS, ARTHUR MALANGA, DIEFF VITAL, SESHA SRINIVASAN, Florida Polytechnic University — We have successfully developed visible light activated photocatalytic nanocomposites by varying the concentrations of low band gap semiconductor oxide $InVO_4$ with high band gap TiO_2. Extensive microstructural and surface area characterizations have been carried out using SEM and BET to explore the surface morphology and pore size distribution of these nanocomposites. The new materials' selection TiO_2-Xwt.%$InVO_4$ (X = 4) has shown enhancement in photocatalytic degradation (by at least 50%) of Methyl Orange (MO), an azo dye decontamination in DI H_2O under visible light irradiation only. The visible light photocatalytic degradation performance of either plain TiO_2 or plain $InVO_4$ seems inert under the same operating conditions used for the aforementioned nanocomposites. Structural, microstructural and chemical analysis have been carried via the characterization techniques such as X-ray diffraction, Scanning Electron Microscopy, and Fourier Transform Infrared Spectroscopy.

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