

2nd World Congress and Expo on Nanotechnology and Material Science April 04-06, 2016 at Dubai, UAE

Design of upconversion luminescence enhanced 3C-SiC nano-composites with broad spectrum light absorption

Fang He and Lixia Chen

School of Materials Science and Engineering, Tianjin University, Tianjin 300072, People's republic of China

In order to maximize the use of sunlight, the idea of upconversion luminescence enhanced light absorption of photocatalytic materials is introduced to the design of new style water splitting system. Choosing 3C-SiC nanocrystals with excellent properties as photocatalytic materials, upconversion luminescence nano-materials with tuned luminescence properties is combined with 3C-SiC nanocrystals to form upconversion luminescence materials/3C-SiC nanocrystal composite structure with broad spectrum light absorption ability. The effects of size, microstructure and surface characters of 3C-SiC nanocrystals on their band gap structure and spectral response characteristics are analyzed mainly based on the design and preparation of upconversion luminescence enhanced 3C-SiC nanocrystal composite structure in this paper.

Biography:

Fang He is an Associate Professor in school of material science and engineering of Tianjin University, China. She obtained PhD from Tianjin University of China in 2006, and her my research interests includes nano-sized photoluminescence materials, photocatalytic materials and multifunctional composites.