ADVANCED MATERIALS

Rapid Fabrication Technique for Interpenetrated ZnO Nanotetrapod Networks for Fast UV Sensors

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Abstract

Two flame-based synthesis methods are presented for fabricating ZnO-nanostructure-based UV photodetectors: burner flame transport synthesis (B-FTS)and crucible flame transport synthesis (C-FTS). B-FTS allows rapid growth of ZnO nanotetrapods and in situ bridging of them into electrical contacts. The photo detector made from interconnected ZnO nanotetrapod networks exhibits fast response/recovery times and a high current ratio under UV illumination.