

Synthesis of titania nanotubes for solar cell

서형기, 김길성, 김영순, 김형일, S. G. Ansari, 신형식*, 김연수¹
전북대학교; ¹광양보건대학
(hsshin@chonbuk.ac.kr*)

The titania (TiO₂) material has attracted increasing interests are primarily due to its more recently developed important applications [1-6] in areas such as dye-sensitized solar cells , photo catalyst , environment purification, gas and humidity sensor, and so on. In many of these applications, the sensitivity or efficiency of device is proportional to the specific surface area of material. Therefore, nano-structured titania (TiO₂) such as nanoparticles, nanotubes, wires, ribbons, belts, fibers and rods [7-10] have attracted researchers to a greater extent due to their higher surface to volume ratio as compared to the bulk titania. A considerable amount of studies have been carried out towards synthesis of different types of nano configurations and their utilization in different applications have been and are being investigated. Amongst these configurations-configurations, the nanotubes are more attractive due to their enhanced surface to volume ratio.