



材料合成及性能

紫外光控制的金属硫化物/聚苯胺p-n结及其在光敏传感器中的应用

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摘要：设计了由金属硫化物/聚苯胺p-n异质结和紫外光敏材料氧化锌层所组成的光敏传感器,通过紫外光照外接氧化锌层来控制金属硫化物/聚苯胺p-n结的耗尽区厚度。与其他报道的光敏材料不同的是,其他光敏材料在紫外光照射下光电导会增加,而该光敏传感器在紫外光照射下光电导会减少。

关键词：紫外光控制 金属硫化物 聚苯胺 p-n结 光敏传感器

UV Light Controllable Depletion Zone of Metal Sulfide/Polyaniline p-n Junction and Its Application in A Photoresponsive Sensor

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Abstract: A photoresponsive sensor that UV light controlled depletion zone thickness was report. This p-n junction depletion zone lies between the n-type ZnS and p-type polyaniline. The photoresponsive sensors were constructed by combining polyaniline/ZnS p-n heterojunction and ZnO nanorods. Different from the traditional photosensitive nanomaterials whose conductivity increases with UV illumination intensity, the conductivity of the photoresponsive sensor studied in this articles decreased when the UV light was turned on.

Keywords: UV light controllable metal sulfide polyaniline p-n junction photoresponsive sensor

收稿日期 2013-07-27 修回日期 2013-09-02 网络版发布日期

基金项目:

国家杰出青年科学基金(60925016);中国国家重点基础研究发展计划(2011CB921901)资助项目

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