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Review Article

Conductometric Gas Nanosensors

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Abstract

This paper presents a review of the current research activities in the field of gas nanosensors. Nanomaterials are characterized by physical and chemical properties that differ from their macroscopic counterparts and, in particular, by an enhanced chemical reactivity even at room temperature. This effect has stimulated the development of chemical sensors based on several different nanomaterials. Here we focus most attention on carbon nanotubes, silicon and metal oxide nanoparticles and metal nanowires. After introducing a few general definitions a discussion on the fundamental properties of the nanostate used in the sensor field is presented and several nanosensors, based on the aforementioned nanomaterials, are discussed. Finally, some personal conclusions will be drawn.

Abstract

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