

Metal Oxide Nanowire Gas Sensors

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Monocrystalline metal oxide nanowires have emerged as new building blocks for a wide range of devices and applications owing to their unique properties directly derived from their size, crystalline structure and well-defined geometry. In particular, these nanomaterials have been successfully integrated in proof-of-concept gas sensors with high sensitivity and stable characteristics, giving rise to a productive research line in recent years. In this article, we describe the state-of-the-art research and development activities in metal oxide nanowire gas sensors, and survey the main characteristics of these devices in terms of response, stability and selectivity towards gases. Finally, some predictions of future developments in metal oxide nanowire gas sensors are presented and briefly discussed.

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