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Potential Applications and Future Prospects of Zinc Oxide Thin Films

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Abstract : ZnO is currently receiving a lot of attention in the semiconductor industry due to its unique characteristics. ZnO is widely used in solar cells, heat-reflecting glasses, optoelectronic bias, and detectors. In this composition, we provide an overview of the ZnO thin flicks' packages, methods of characterization, and implicit operations. They consist of Transmission spectroscopy, Raman spectroscopy, Field emigration surveying electron microscopy, and X-ray diffraction. This review content also demonstrates how ZnO thin flicks function in electrical components for piezoelectric bias, optoelectronics, detectors, and renewable energy sources. Zinc oxide (ZnO) thin films offer a captivating tapestry of possibilities due to their unique blend of electrical, optical, and mechanical properties. This review delves into the realm of their potential applications and future prospects, highlighting the pivotal contributions of research endeavors aimed at tailoring their functionalities.

Keywords : Zinc oxide, raman spectroscopy, thin films, piezoelectric devices
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