

Editorial

Nanomaterials for Sensor Device Applications

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Nanostructures can be divided into zero-dimensional (0D when they are quantum dot or nanoparticle structures), one-dimensional (1D when they are elongated), and two-dimensional (2D when they are planar) based on their shapes. Nanostructured materials are a new class of materials, having dimensions in the 1~100 nm range, which provide one of the greatest potentials for improving performance and extended capabilities of products in a number of industrial sectors. In recent years, the nanostructures for sensor device applications have been highly developed in various fields, due to their flexibility and light weight for daily use. Some materials like the low carbon alloy steel, transparency conducting AZO films, piezoelectric material, AlN flake, and titanium dioxide films have already been introduced and under investigation. These materials and devices often have unknown reliability behavior and/or introduce new failure mechanisms. In addition, the market is continuously demanding higher reliability levels for present technologies. The chance to share and discuss these crucial nanostructured materials for sensor device developments is very important. Therefore, the field of sensor device has been the subject of reviews. Sensor devices are environmentally sustainable, in particularly considering the availability of the nanostructured raw materials.

This special issue selects 22 papers about nanomaterials for sensor device applications and other related fields. This special issue enables interdisciplinary collaboration between

material science and engineering technologists in the academic and industrial fields.

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