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Electrical properties and gas sensing properties of TiO₂/GO nanocomposites for CO₂ sensor application

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Titanium dioxide (TiO_2) nanostructures were prepared by microwave assisted and varying time. The morphology of TiO_2 nanostructures were studied by scanning electron microscopy (SEM), X-ray diffraction (XRD), electrical and gas sensing properties. SEM images revealed nanoparticles cluster of prepared products. XRD patterns showed anatase phase of TiO2 with peak of (101), (004), (200), (105), (211) and (204). The I-V characteristics exhibited the behavior of the ohmic and diodes materials. The sensitivity was measured under CO_2 atmosphere showed high sensitivity of TiO_2/GO composites in 60 second at 2.54.

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