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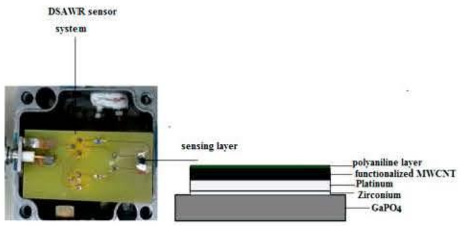
RESEARCH HIGHLIGHTS

1. Sensor Technology



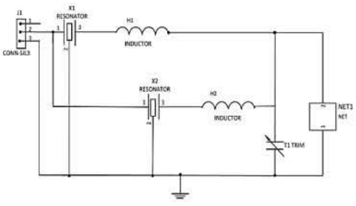


Figure 3. Schematic of DSAWR system with a resistor connected in parallel.

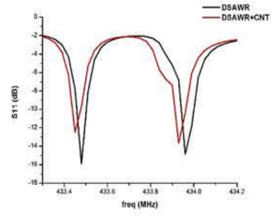


Figure 6. Plot of S11 *versus* frequency.

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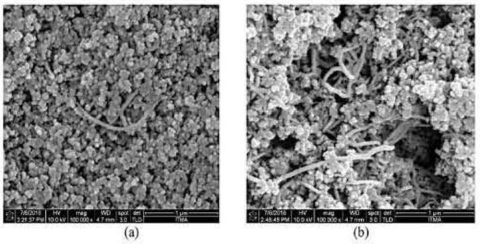
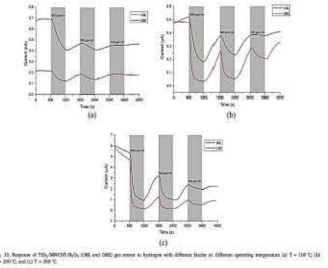
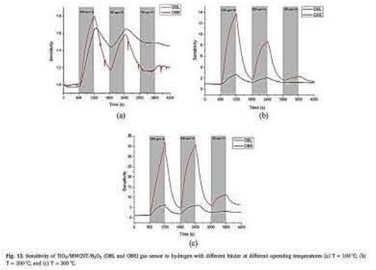


Fig. 2. FESEM image of TiO_2/MWCNT/B_2O_3 thick film annealed at 500 °C for (a) OBL and (b) OBE.





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"Response of TiO2 MWCNT B2O3 Gas Sensor to Hydrogen using Different Organic Binder,"
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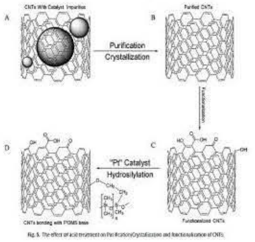

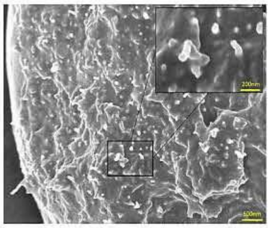

Fig. 7. Uniform dispersion of functional CNTs in PDMS.

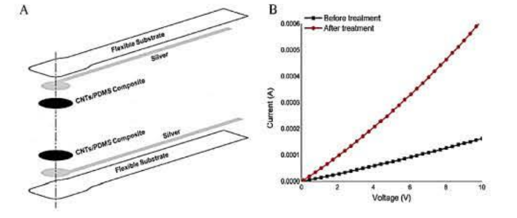

Fig. 8. (A) Design of the Piezoresistive pressure sensor; (B) I-V characteristics of CNTs/PDMS nanocomposite before and after crystallization and functionalization (average output obtained from 10 wt% and 15 wt%).

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"Fabrication of Piezoresistive Based Pressure Sensor via Purified and Functionalized CNTS/PDMS Nanocomposite: toward Development of Haptic Sensors," Sensors and Actuators A, Vol. 266, pp. 158-165, 2017

2. Carbon-based Ultraconductor

Ultra-conductor is defined as an electrical conductors, which have certain properties similar to present-day superconductors and can considered as a novel state of matter which using carbon-based material as the important element. Thick film technology is implemented of which a highly conductive CNT paste is screen printed on a substrate based on design such as electrodes or circuit connectors.

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