NANOTECHNOLOGY BASED GAS SENSING DEVICES.

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Gas sensors have a wide range of applications, and many of these applications require very high sensitivity. Types of gas sensors include electrochemical, chemiresistor, infrared point, infrared imaging, semiconductors, ultrasonic and holographic sensors. Nanotechnology is a branch of engineering and science that deals with materials, processes, and devices at nanoscale, one billionth of a meter. Using nanotechnology highly sensitive sensors can be produced. This poster will present chemiresistor sensors developed using nanotechnology at Integrated Nanosystems Development Institute (INDI). Poly (vinylidene fluoride-co-hexafluoropropene) (PVDF-HFP), Carbon black, and carbon nanotube materials were used. Sensors were fabricated using photolithography and spin-coating or spraying methods. The sensors were then tested with acetone, ethanol, water vapor, and other gasses using a sensor testing setup and a data logger system. The poster will present fabrication methods and experimental results.

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