

Synthetic Diamond film based Hydrogen Sulfide Sensor



Hydrogen sulfide is a toxic and flammable gas, usually generated in sewages, swamps, mines etc. Hydrogen sulfide gas detector finds application in petroleum refineries, paper mills, tanneries and other industries, laboratories, and in heavy water plants where it is used as a process gas. It is imperative that the gas should be detected in ppm levels in air by selective and sensitive sensors. We have exploited surface conductivity of hydrogen terminated diamond films to detect trace levels (<1ppm) of hydrogen sulfide at room temperature.

SALIENT FEATURES

- Room temperature operation, hence low thermal budget and low power requirement.
- Stable and long life (> 2 years).
- Suitable to operate at temperatures up to 100°C.

APPLICATIONS

- Environmental monitoring for H₂S in plants.
- H₂S gas detection and alarm systems.