
Modeling of Resistive Gas Sensor Response Based on a Simultaneous Absorption Model

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Abstracts Resistive gas sensors, register heat density using resistance changes (electrical conduction). Many efforts have been done to model gas absorption on surface. The most important one is monolayers Langmuir absorption, BET and Freundlich absorption model. Surface absorption Langmuir model considered homogeneous level with similar dependency energy for surface absorption sites. It also doesn't consider interactions between adsorbent atoms, while the energy of surface is considered heterogeneous in Freundlich absorption model. Freundlich absorption model for multiplier gas, is considered in Freundlich model, effect of each component is checked, finally due to density of gas in several temperature and effect of temperature on conductance or change of resistance, multiplier Freundlich model is presented

Keywords : Resistive gas sensors, electrical conduction

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