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Biomaterial based toxic gas sensor using microwave resonant cavity

Sahib Babaee Tooski
Islamic Azad University, Iran

Biomaterials are getting significance in the current research field of gas sensors due to great sensitivity. Performance of biomaterial-based gas sensor constructed from gum Arabica and garlic extract in microwave resonant cavity had been investigated. It is shown that extract of garlic clove with multiple medicinal and chemical utility is very helpful in sensing sulphur oxide gas. The material under observation undergoes some momentary physical change on exposure to sulphur oxide gas. This change can be detected over amplified potentiometric variation through electrical circuitry of microwave resonant cavity. Manipulating this appropriate characteristic, a potentiometric gas sensor of faster response and recovery time can be designed. Sensing property of the said material has been studied via microwave attenuation, reflection, and transmission.

s.b.tooski@gmail.com