SENSORS BASED ON METAL OXIDES FOR MEDICAL APPLICATIONS

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Copper oxides and zinc oxides have been abundantly studied due to their versatile applications in gas sensors, biosensors, batteries, solar energy, temperature superconductors, photodetectors, etc [1]. One of the attractive challenges where CuO nanostructures are involved is the detection of different biomarkers for medical applications. Biomarkers are measurable indicators present in the human body that can be seen through various tests. CuO-based sensors are used in the determination of volatile organic compounds (VOC) as biomarkers of various diseases, realizing increased interest on acetone sensors as a biomarker used for the detection of diabetes mellitus by the non-invasive method of the human body [2]. Just like the detection of gases, volatile organic compounds that are naturally found in nature, an interesting field of research is the detection of ultraviolet light (UV) to which we are influenced every day both positively and negatively. There is a wide range where this type of light is used, starting with agriculture and cosmetics, ending with the medical field or the creation of integrated circuits [3]. The results obtained from the research carried out are promising with the prospect of developing multifunctional devices for detecting not only gases and VOCs, but also rays with different wavelengths. So, the studies in the given field will be continued.

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