Novel Technique To Fabricate Ultraviolet Sensor Using Photopolymer Resin With 3D Printing Technology To Avoid Skin Cancer

Shams , Ali (School: Al-Jazeera Academy)
Redhwani, Mohammed (School: Al-Jazeera Academy)

The UV light assessment is essential for controlling of the skin and other living organisms getting fragile resulting in the premature aging of the skin, solar elastosis, liver spots, etc. The current research work focuses on the development of a UV sensor for the detection of the intensity of UV light. A photopolymer is used to create the 3D required print by undergoing the curing process in the presence of a light source. To this photopolymer resin, we added the ZnO nanoparticles, which have significant light-sensitive properties for sensing the Ultraviolet. The 2D image of the hand band design is converted to 3D in layers by millions of micromirrors. The purpose of the micromirrors is to direct the light and create patterns of each layer at the bottom of the resin tank. In this work ZnO, based UV sensor is fabricated using 3D printing for the detection of UV light. The morphological studies and surface topology of the prepared composite were studied using XRD analysis and SEM analysis, respectively. The resistivity studies of the fabricated sensor were analyzed using hantec device. The results show excellent resistivity results.

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