

Optimization of Microfluidic Technique based Strain Sensors for Enhancing its Sensitivity

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Recent streams of piezoresistive sensor have the interesting functions like motion detecting, pressure detecting and wearable electronics. It is necessary for the piezoresistive strain sensors to enhance sensitivity for efficient sensing of various deformations. We demonstrated the microfluidic strain sensors which were transparent, sensitive to various deformations and reliable to response signal. As a advanced step of the previous research, we analyze the deformation of the microfluidic systems in terms of channel sizes and conductivity of ionic liquids to strengthen the performance of the microfluidic strain sensors. The enhancement of sensitivity in the microfluidic strain sensors can broaden the practical applications such as wearable devices, robotics and artificial skin.