

Texture detection with micro skin type tactile sensor

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In this paper, we propose a skin-type tactile sensor to measure a micro size texture of an object by scanning its surface. The sensor was composed of two layers with different stiffness, the surface layer with highly stiff and bumpy surface, and the inner layer with low stiffness.

The bumpy surface structure of the tactile sensor, like the finger prints, enables to detect the micro texture by scanning. According to this result, we designed and fabricated a tactile sensor and confirmed its sensing characteristics by scanning random texture patterns formed on a silicon wafer surface.