Multi-Piezoelectric Microcantilever

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Status:
Seeking R&D and/or licensing partner
Patent Pending

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Multi-Piezoelectric Micro Cantilever

- Novel device and algorithm to improve accuracy within micro-cantilever Scanning Probe Microscopes (SPMs).
- Uses multiple pieces of piezoelectric material attached to the surface of the micro-cantilever.
- The consensus algorithm uses a network of nodes to provide the most accurate estimation of the deflection of the micro-cantilever.

Multi-Piezoelectric Micro Cantilever Advantages

- Results in the elimination of the laser sensor.
  - Laser sensors can be expensive and hazardous.
- Enables operation and accurate measurements even if there is a failure in the piezoelectric sensors.
- Technology increases the accuracy of scanning probe microscopes.
  - Using the novel combination of the consensus algorithm and the piezoelectric sensor.

Consensus observer sensing system

Base actuator

Figure 1. Sensor and Sensing Mechanism

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