

AFM Probe with Variable Stiffness

Technology Overview

- A probe for atomic force microscope (AFM)
 - Suitable for measuring both topography and mechanical properties of micro-scale materials
 - Easily incorporated into commercial AFM machines for adding nano indentation capability
 - Free from parasitic motions during mechanical testing

Core Technologies

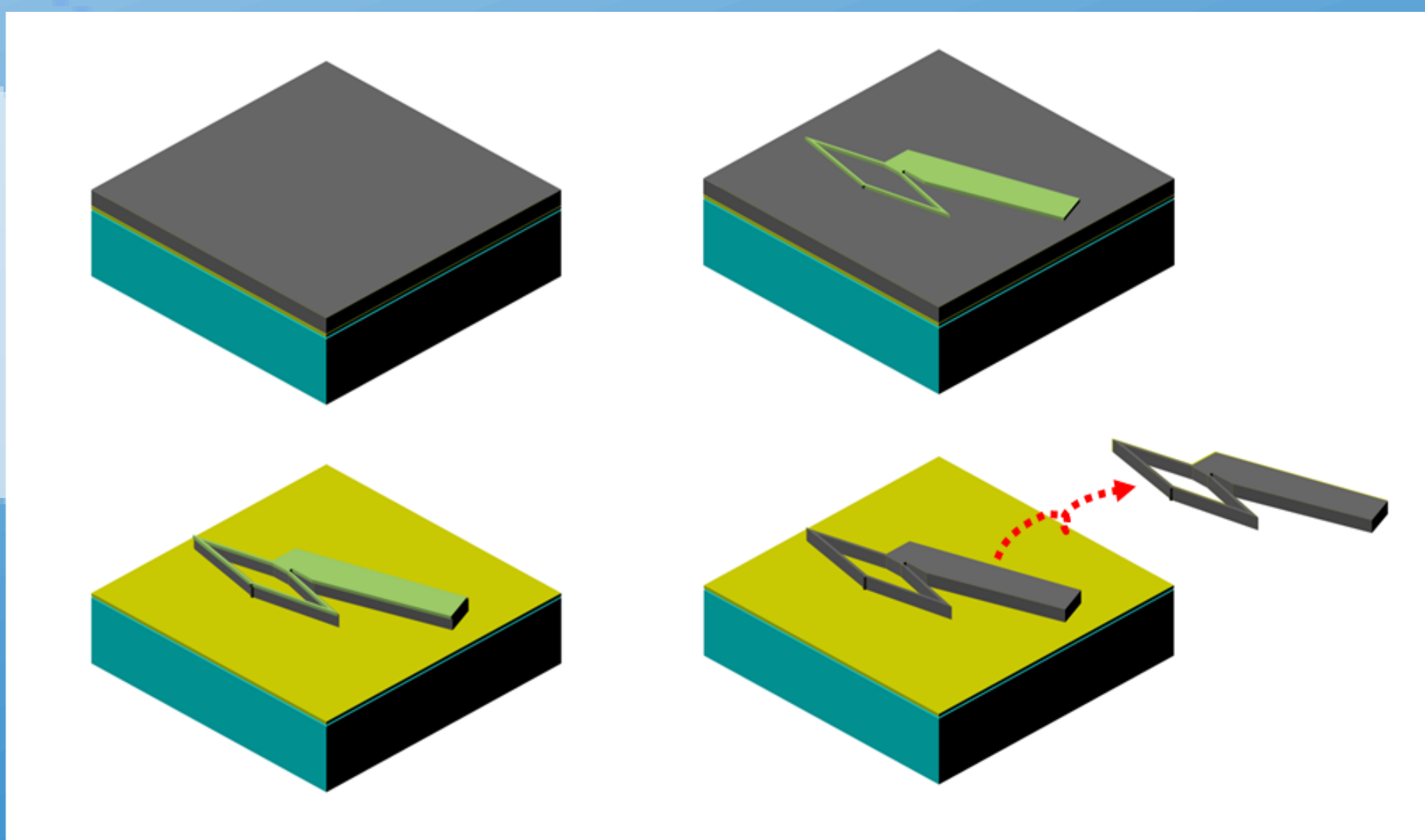
- Design technology for removing parasitic motions
- Mechanism for providing variable stiffness
- Manufacturing technology for AFM probes

Application Area and Advantages

- Mechanical testing of nano and micro-scale materials
- Process monitoring during repetitive deposition of thin films
- Thickness measurement of thin films

Accomplishment

- 5 journal articles for Probe and 50 articles for Mechanical Property Measurement



(a) 50 μm commercial SOI wafer
(c) Silicon DRIE

(b) Oxide etch mask patterning
(d) Removing oxide and releasing probe

