Our goal is to use $^{29}\text{Si}$ nuclear spins for quantum computing. We are developing an instrument using novel MEMS devices to observe small forces from the nuclear spins [URL://feynman.stanford.edu].

Portions of the device pictured will be fabricated in 2001-2002 in CIS. Ultimately it will allow us to detect a small number of nuclear spins and achieve atomic plane imaging capability.

**Diagram:**
- **Double-clamped silicon micro-bridge:** $200 \mu m \times 5 \mu m \times 0.1 \mu m$
- **Micro-magnet (Dy metal):** $400 \mu m \times 10 \mu m \times 4 \mu m$
- **Patterned and embedded $^{29}\text{Si}$ nuclei:** $10 \mu m \times 0.5 \mu m \times 0.02 \mu m$
- **RF Coil for nuclear state control**
- **Laser interferometer**

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