

PZT Solution & Thin Films for Nano Storage Devices

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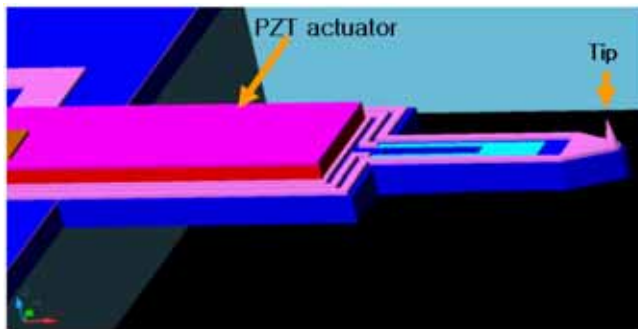
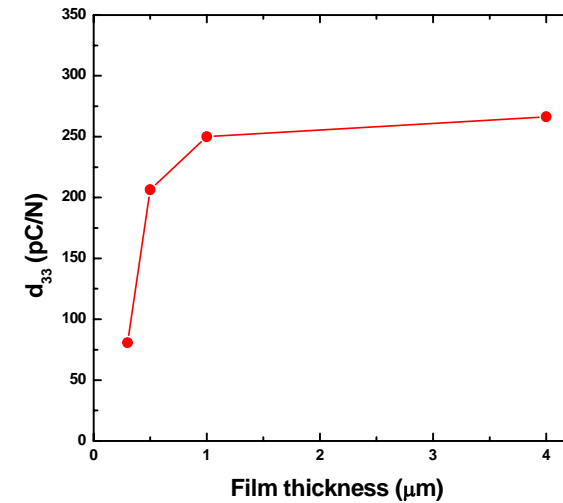
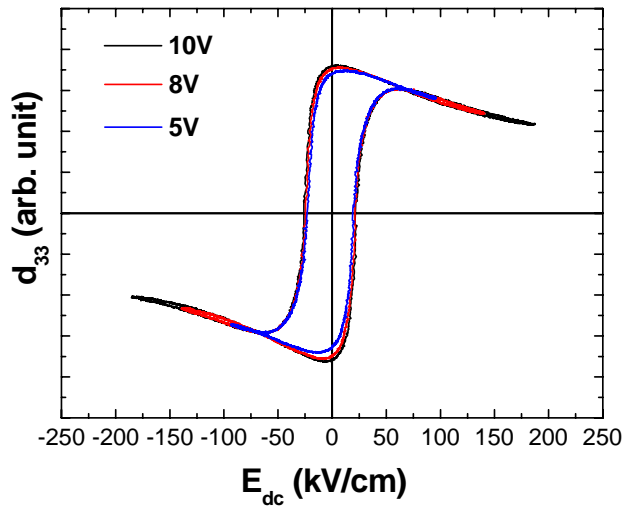
Materials for Nano Storage Devices

Nano storage devices using scanning probe microscopy promises very high storage densities and data rates for future multimedia systems. PZT thin film is a strong candidate material for high quality nano storage devices.

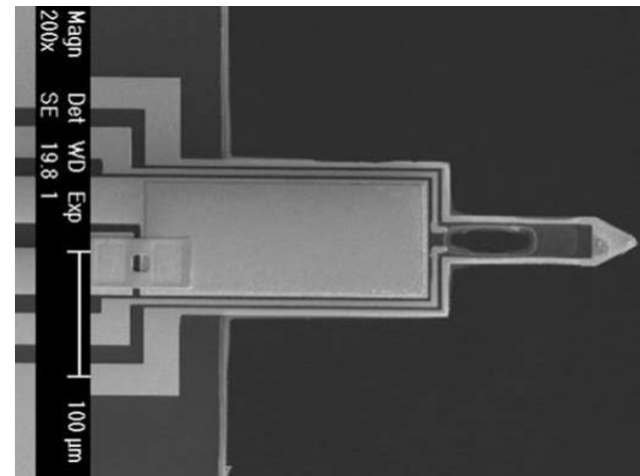
- **Two major applications of PZT thin films for high quality nano storage devices**
 - **PZT piezo-actuator (Cantilever)**
 - **PZT ferroelectric media**

Piezo-actuator Cantilever for Nano Storage Devices

- Excellent actuating behavior
- Low residual stress
- Flat PZT cantilever
- Long-term reliability
- High breakdown strength



M2N Prototype device



Ultra Thin Ferroelectric Media for Nano Storage Devices

PZT films ; <100 nm (Tetragonal symmetry)

- **Low surface roughness (< 1 nm)**
- **Precise composition control (<2%)**
- **Uniform grain size distribution , deviation : < 3nm**
- **Uniform bit size**
- **Stable bit writing**
- **Highly textured (111) orientation**
- **High Polarization**

Customized Coating Service

- **Epitaxial PZT on Pt/single crystal substrate**
- **Epitaxial PZT on SrRuO₃/SrTiO₃ single crystal substrate**
- **< 50 nm coating service is possible!**