

Ion Beam Etch for MEMS

Piezo and Ferromagnetic Materials

■ Select Veeco IBE Applications:

- Acceleration sensors – PZT/Pt
- Piezo-electric inkjet print heads – novel contacts Ir/TiW.
- SAW filters – metal contacts on piezo LiTaO_3
- Tunable capacitors – BST/Pt

Key IBE advantages:

- Trench angular control
- Sidewall profile
- Etch rate control (angle)
- Not sensitive to material type

Veeco advantages:

- Custom application development
- High etch uniformity up to 200mm
- Production proven: automation and reliability

TYPICAL ETCH REQUIREMENTS:

- Selectivity > 0.8 ✓
- Over-etch control < 30nm ✓
- Sidewall slope > 40° ✓
- Lateral PR etching < 0.25 μm ✓

