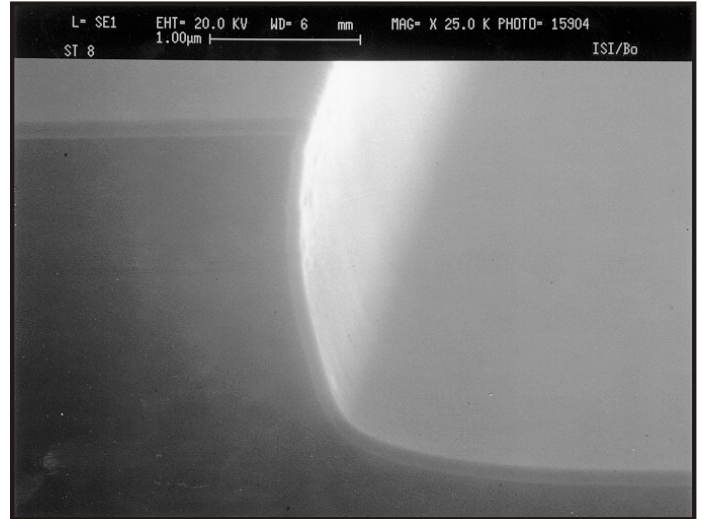
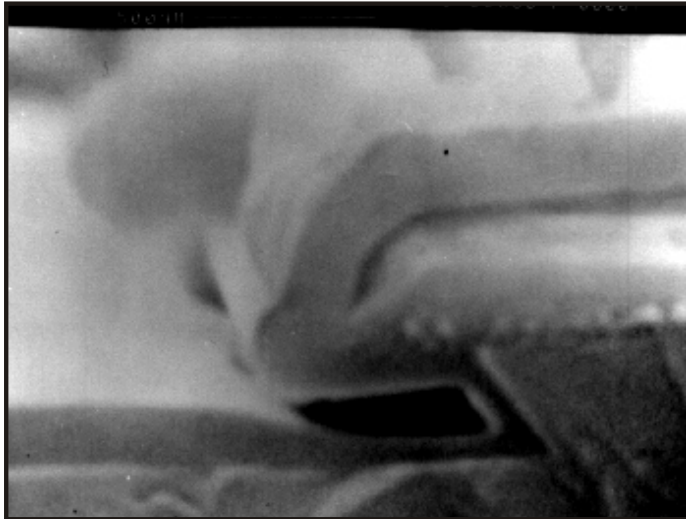


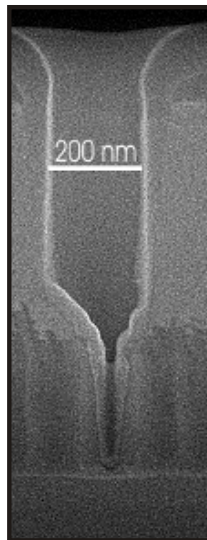
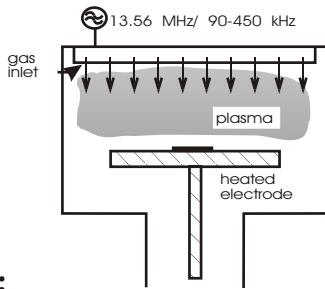
# Plasmalab Data

## Conformal SiN PECVD

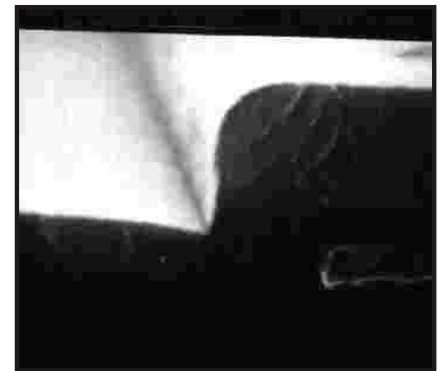


OPT application lab:  
 conformal SiN deposition in source-gate  
 and source-drain contacts of GaAs - FET's

courtesy of FZ Juelich, ISI:  
 70 nm SiN over a 2 µm step  
 (with underetched wall)



OPT application lab:  
 conformal deposition  
 of 30 nm SiN in high  
 aspect ratio holes



OPT application lab:  
 conformal deposition of 1 µm SiN  
 over a 0.9 µm 85° step

**Technology:**

- Parallel Plate Reactor
- Shower Head Gas inlet
- SiH<sub>4</sub> - Process

**Results:**

- conformal deposition over overhanging steps
- lower KOH and BHF wet etch rates at higher temperatures
- low pinhole density
- excellent uniformity over full batches
- Rate : 3 - 30 nm/ min (controllable)
- Uniformity: ± 3 %
- Reproducibility: ca. ± 2%
- Refractive Index: 1.90 - 2.10 (controllable)
- Stress: small tensile stress (< 10<sup>9</sup> dynes/cm<sup>2</sup>)  
 fully controllable with frequency mixing
- Adhesion on Si, GaAs: excellent
- Breakthrough voltage: 4 x 10<sup>6</sup> V /cm
- Dielectric constant: ca. 7 (at 1 MHz)

- Plasmalab 80 Plus*
- Plasmalab 800 Plus*
- Plasmalab System 100*
- Plasmalab System 133*

