OXFORD INSTRUMENTS

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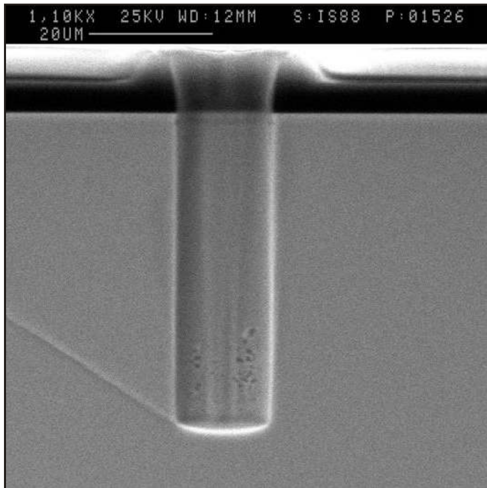
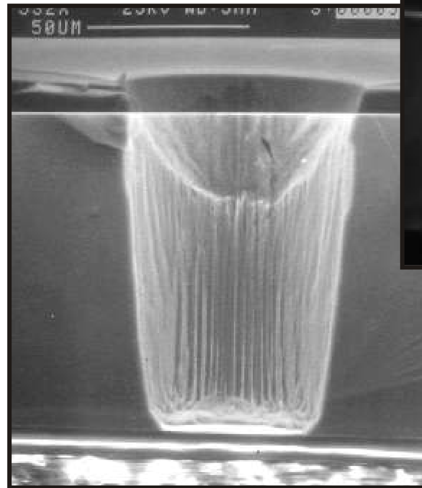
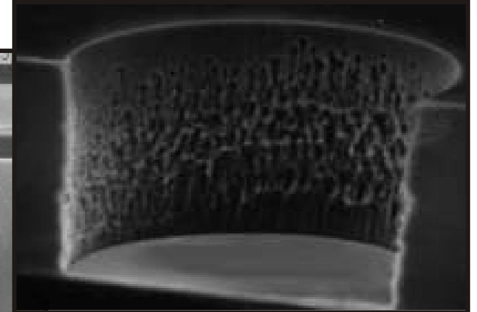
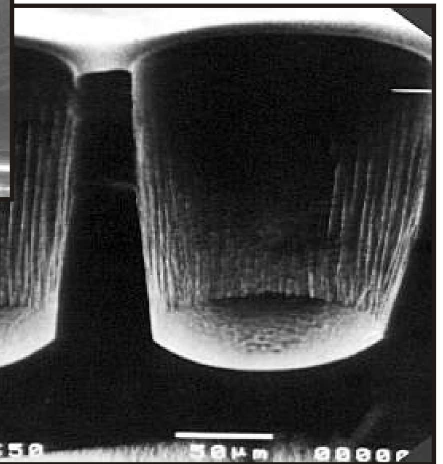
Plasmalab Data

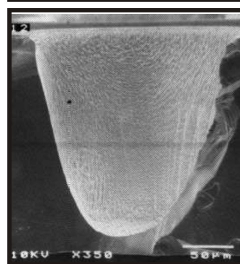
GaAs Via Hole Etching (RIE, ICP)

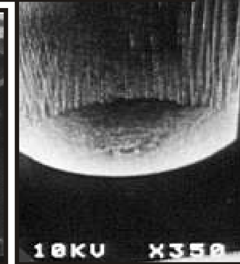


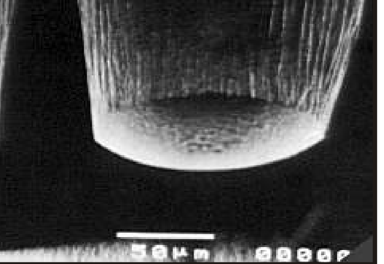






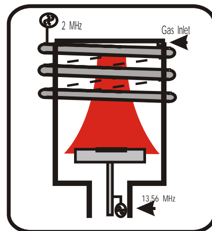


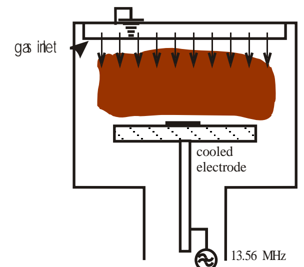




OPT application lab:
top left: 15 x 50 µm GaAs via hole etched
by ICP-RIE using BCl_3/Cl_2 chemistry, PR mask intact
top top center: Through wafer GaAs via hole
etched by RIE using BCl_3/Cl_2 chemistry, PR mask intact

Top right: 100 µm deep GaAs via holes with
80 µm diameter, (courtesy of Thompson, Paris)
bottom SEM's: Courtesy of Uni Duisburg





Technology:

Inductively Coupled Plasma (ICP)
Single wafer loading for up to 6” wafer
BCl_3/Cl_2 based chemistry
excellent profile control and mask selectivity

Typical results
rate: 2 - 4 µm/min.
selectivity to PR > 15:1
uniformity < 5% (6” wafer)
batch throughput > 2 wafers/hour (100µm via)
positive angled profiles with no re-entrant slopes

Plasmalab 80 Plus
Plasmalab System 100
Plasmalab System 133

Technology:

Reactive Ion Etch (RIE)
Batch loading of up to x4 carrier mounted 4” wafers
BCl_3/Cl_2 based chemistry
excellent profile control and mask selectivity

Typical results
rate: 0.8 - 1.2 µm/min.
selectivity to PR > 15:1
uniformity < 5% (4” wafer)
batch throughput > 1.7 wafers/hour (100µm via)
positive angled profiles with no re-entrant slopes