OXFORD INSTRUMENTS

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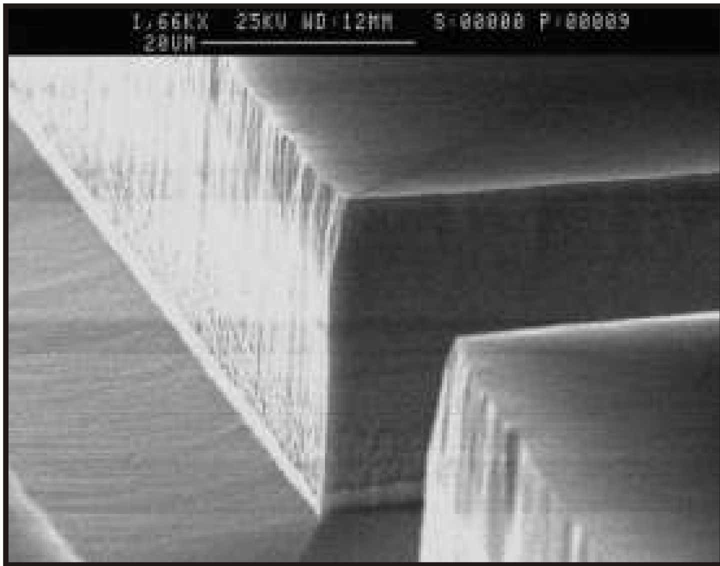
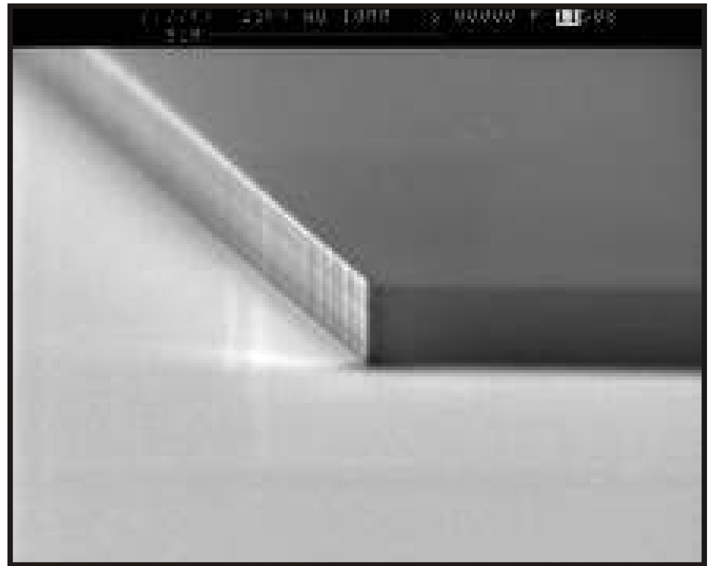
Plasmalab Data

ICP RIE: InGaAlP / GaAs

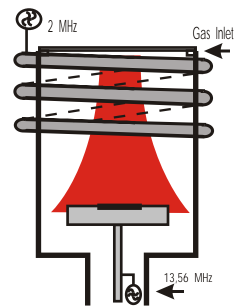


OPT application lab:
25µm deep GaP/ InGaAlP/ GaAs etch at ca 2 µm/ min



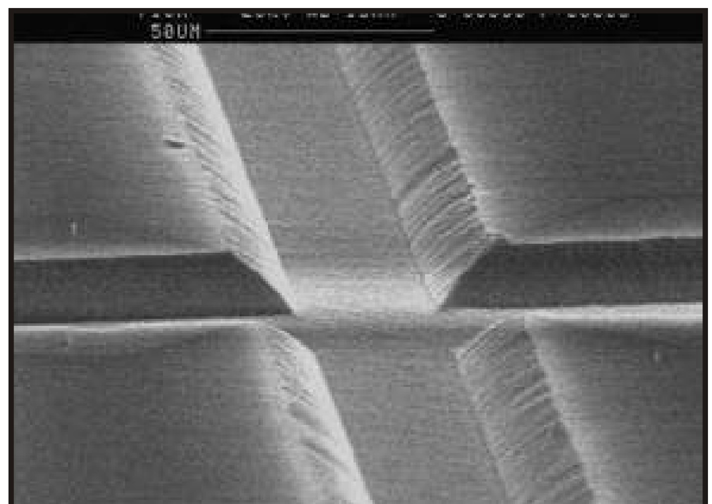
OPT application lab:
1.8 µm deep anisotropic GaAs/ GaInP/ AlGaInP etch

ICP Source Design: ESS
All OPT ICP and RF sources are designed with an "electrostatic shield" (ESS) to ensure a purely inductive plasma coupling without capacitive component.Therefore contamination by "wall sputtering" and ion induced substrate damage is excluded.



Plasmalab 80 Plus
Plasmalab System 100
Plasmalab System 133

OPT application lab:
20 µm deep GaP/ InGaAlP/ GaAs etch
target angle was 45°



Technology:
- Reactive Ion Etching
- with ICP Source
- Inductive Coupled Plasma
- Chlorine based Process
- RF driven substrate electrode

Results:
- rate : 0.3 - 0.8 µm/ min
- up to 2 µm/ min for GaP/ InGaAlP/ GaAs depending on the multilayer composition
- selectivity to SiO2 mask ca 10 : 1
- good uniformity
- very anisotropic etch
- smooth walls