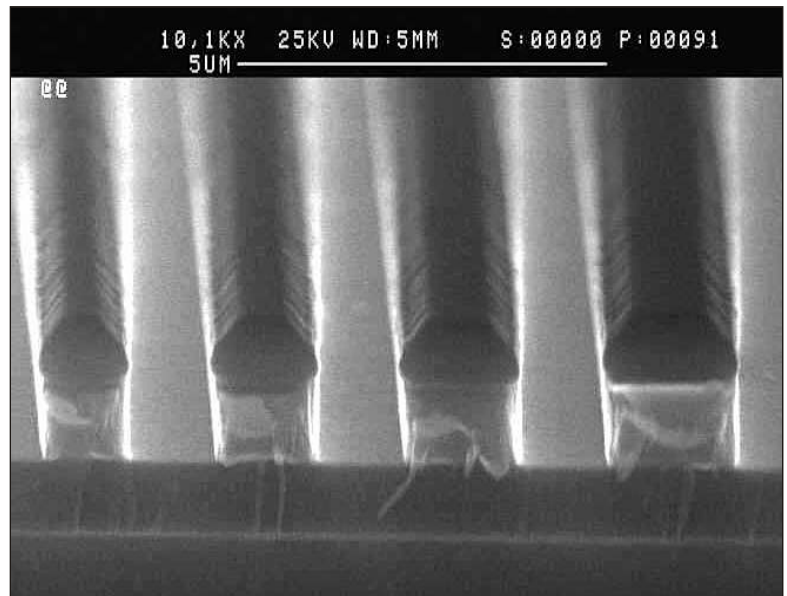
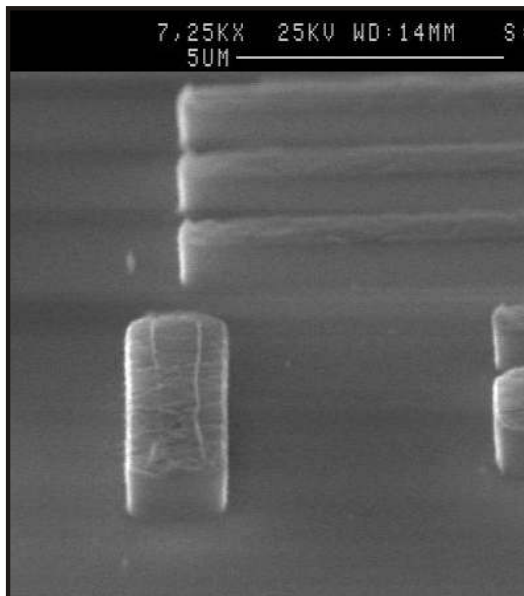


# Plasmalab Data

## Al ICP Etching



### Technology:

Reactive Ion Etching  
with ICP Source (2 or 13.56 MHz)  
Inductive Coupled Plasma  
RF driven substrate electrode  
substrate temperature control  
HBr, Cl<sub>2</sub> based multi step process

### Results:

Rate : 0.3 - 0.7  $\mu\text{m}/\text{min}$   
high selectivity to SiO<sub>2</sub> underneath  
selectivity to photoresist mask > 3 : 1  
linewidth loss < 0.05  $\mu\text{m}/\text{side}$   
incl. passivation / resist strip

The SEM from OPT application lab  
in Yatton, UK, show 1  $\mu\text{m}$  thick Al lines.

### ICP Sources

ICP65 for pieces and small wafers  
ICP180 for 4" - 5" wafers  
ICP380 for up to 8" wafers

### 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.

### Source to Substrate distance

This distance can be varied over the wide range for optimal process control.



*Plasmalab System 100*

