Implantation protocol

General

Implantation Date: 27.11.2017
Operators: A. M. Jakob, B. C. Johnson

Colutron Operation Details

Ion species:	P^+	**Ion Energy:**	12keV
Source Pressure:	130mbar	**Anode U / I:**	50V / 130mA
Filament U / I:	11V / 16A	**Plasma Current:**	0.0047mA
Source gas:	Ar/He/H_2	**Aperture diameter:**	600µm

Processing Details

The requested fluence of nominally $\Phi = 1 \times 10^{11} cm^{-2}$ to be implanted at each site corresponds to an average donor spacing of about 38nm within a ±2.5nm $\Delta\varepsilon$-layer around the maximum of the P-ion depth concentration profile (d_{max} = 18nm) for 12keV P^+ in Si and assuming an 8.3nm oxide layer.

Nominal chamber ion current: 20pA after 600µm aperture (no V-slits used)
Nominal implantation time: 2.5s exposure time per spot

Comments:

No ion beam current fluctuations or other process disturbations to report.