



STATION POUR L'IRRADIATION DES COMPOSANTS ET SYSTÈMES À ALTO

Objectives

- Provide **electron, neutron, and proton beams** tailored to industrial requirements
- Establish **high-performance experimental irradiation areas**
- Develop **automated irradiation stations** with upgradeable architecture
- Enable irradiation conditions that accurately simulate the **space radiation environment**

Neutron production area



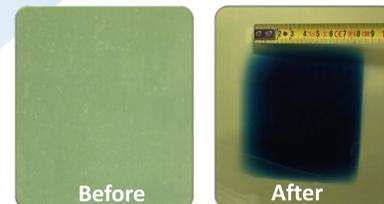
Electrons area



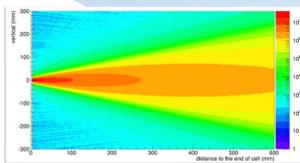
Tandem



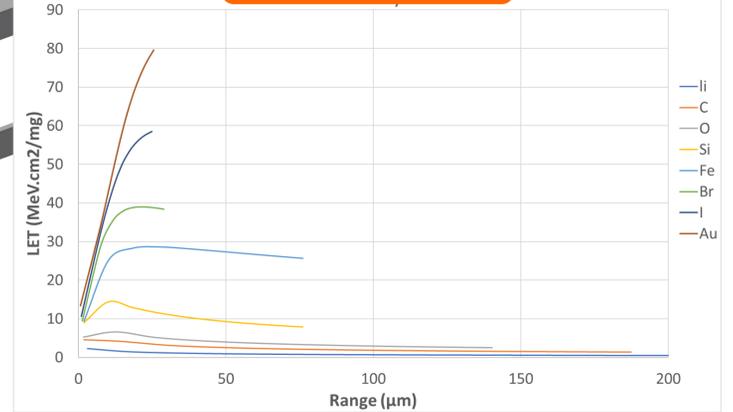
Irradiated surface



Proton beam: 10 MeV
Flux: 1.03×10^{10} p/(s.cm²)
Fluence: 5×10^{12} p/cm²
Surface area: 8 x 15 cm
Dosimetry precision: 2%



LET for Heavy Ions



Proton and Ion Chamber



Applications



MAIN CHARACTERISTICS OF ALTO BEAMS

Beams	Energy	Maximum Flux	Environment test	Irradiated Surface
Protons	20 keV - 30 MeV	10^{12} p/(s.cm ²)	In air	Irradiated surface from 20 x 20 mm ² up to 30 x 30 cm ²
Electrons	1 - 50 MeV	10^{12} e/(s.cm ²)	-170°C to +200°C	
Ions	1 - 300 MeV	10^{12} ions/(s.cm ²)	Under vacuum	
Neutrons	0.5 - 8 MeV	10^8 n/s/sr	Under gas pressure	
			In air	Up to 10 x 10 cm ²

