IE3C (Irradiation and Evaporation in Extreme Environments Chamber)

Objectives
Testing instruments and devices in vacuum. Space qualification of instrumentation. DHMR, and outgassing control in planetary protection procedures. Molecular deposition in surfaces (Biomolecules on vacuum). Liquid deposition in vacuum.

Environmental conditions

- Temperature range: from 300K to 1100K in sample holder computer controlled (different sampler's holders).
- Atmosphere: vacuum base pressure 10^{-10}mbar by turbo and NEG pumps.
- Irradiation: Deuterium lamp, He I-II discharge lamp, electrons (5KV) and ions (5KV).

Technical parameters

- **TPD** (Thermal Programmed Desorption), in real time with QMS 200uma.
- **ALI** (Atomic Layer Injection), liquid organic samples injection in UHV.
- Membrane pump and two serial TMP (Turbo Molecular Pump). NEG pump
- Sample size: should fit on a 10x10mm, and 50x50mm with ceramic oven. Possibility of ad-hoc sample holders.
- Molecular evaporators in 25º.
- QMB (Quartz Micro Balance), for testing outgassing and coating.
- Turbo pump with double orientation, for liquid and solid coating.