

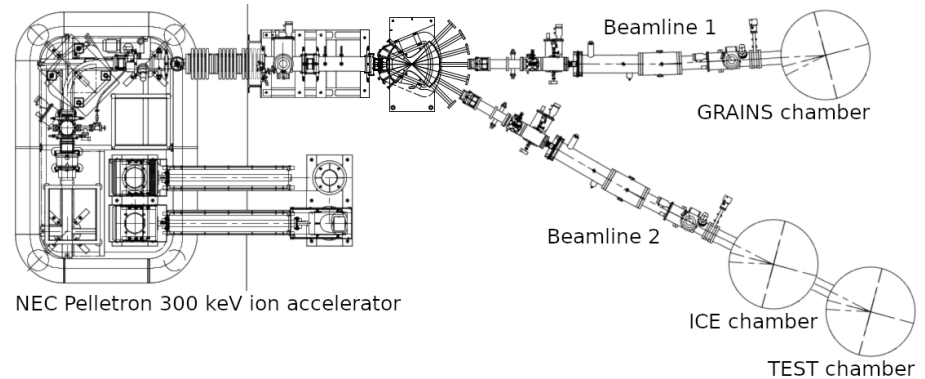


KEVION: A KiloElectron-Volt Irradiation Facility for Space Science

PI: Catherine Dukes / University of Virginia Website: <https://engineering.virginia.edu/kevion>

Description of Facility

- 25-300 keV Ion Implantation Instrument (KEVION) with dual multi-technique analytical chambers (**GRAINS/ICE**) and non-instrumented **TEST** chamber
- **GRAINS chamber** with XPS / RBS / UV-Vis-NIR Hyperspectral Imaging / Ion-Neutral Mass Spec. / 0.2-4 keV ion gun
- **ICE chamber** with QCM / FTIR / Kelvin Probe / UV-Vis Interferometer / Ion-Neutral Mass Spec.
- NASA DPS Instrument Availability: ~6 months/yr.
- Access is available for “in person” measurements or irradiation/analysis done by facility personnel.
- Requirements: Completion of Safety Protocols and Instrument Training prior to “in person” access



A schematic representation of the KEVION irradiation facility shows the Pelletron ion accelerator with dual beamlines and multi-technique analytical chambers (GRAINS & ICE). The TEST chamber provides a platform for instrument prototyping and calibration.

How to use the facility

- Submit “Request for Service” form on KEVION Website: <https://engineering.virginia.edu/kevion>
- Requests are evaluated by PI Dukes & Instrument Scientist Woodson with input from Co-Is
- Requests are prioritized by (1) Request Date; (2) Need Date; (3) Experimental Readiness
- No cost for NASA DPS awarded projects; tiered-cost system for other projects, nominally: NASA non-DPS & UVa [\$45/hr]; external academic / government [\$55/hr]; & industrial clients [\$150/hr].
- **GRAINS Chamber available December 2024**
- **KEVION Facility available after November 2025**

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