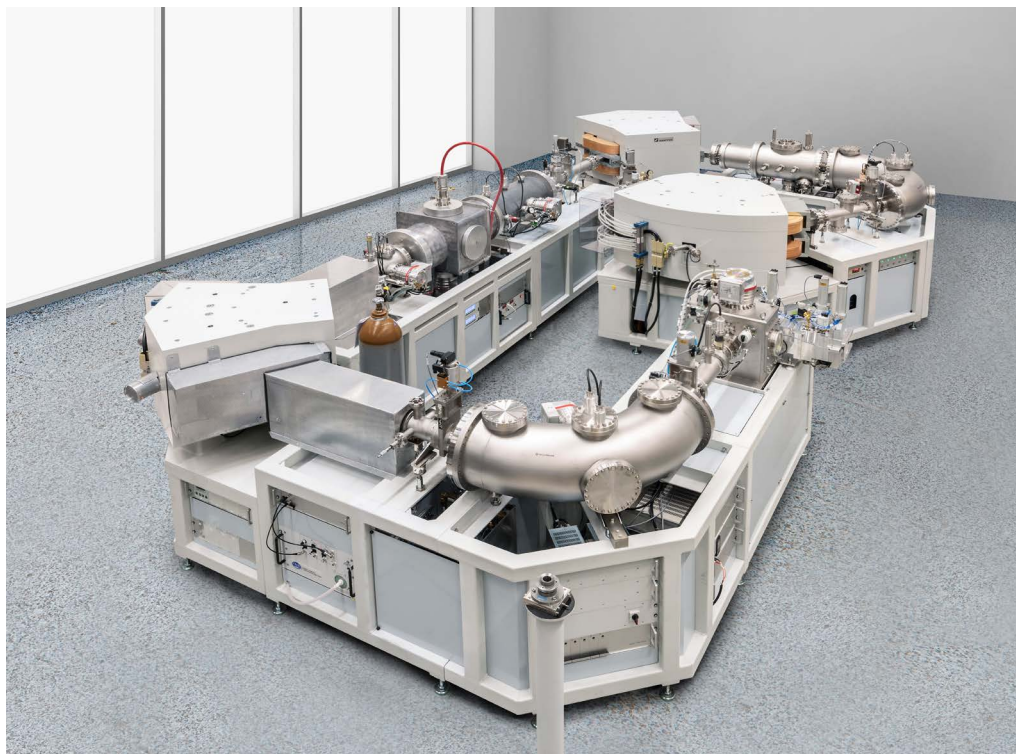


Lancaster Accelerator Mass Spectrometer (LAMS-UK)

PI: Prof. Malcolm Joyce



IonPlus manufactured Accelerator Mass Spectrometer. Pictured is the Multi-Isotope Low Energy AMS (MILEA) to be used at the Lancaster University based facility

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Mission: Establishing a state-of-the-art, university-based facility for the quantification of trace actinide levels to support the decommissioning and development of nuclear fission sites around the UK. The aim is to increase understanding of the baseline concentration of actinides in various matrices, and this is expected to focus predominantly on soils during the initial phase.

AMS Capabilities

- Ability to analyse 55 different radionuclides at femtogram-picogram per gram concentrations, with plutonium and uranium as the facility's primary foci.
- Distinguish samples to a greater extent utilising isotopic ratio measurement.
- Analyses are carried out with small sample masses (1-5g), easily allowing for multiple repeats.

Research Applications

- Environmental monitoring for nuclear installations.
- Fallout material monitoring in the environment.
- Ecological sample measurements of isotopes.

- Hydrology.
- Nuclear physics.
- Pollution.
- Age-dating.
- Materials analysis.
- Etc.

LAMS-UK Facilities

- Sample spiking.
- Raw sample preparation.
- Strong acid digestion for variety of samples.
- Dehydration of samples.
- In-house AMS measurements.
- Visitor workspace.
- Dedicated enclosed facility for safe storage of sensitive sample materials.

Contact details

Please email c.tighe@lancaster.ac.uk to discuss your potential project at any point (including ahead of the facility opening).

Availability

LAMS-UK is currently scheduled to be available for access by external users from Autumn 2021. Up-to-date information about availability is provided at <https://www.nnuf.ac.uk/lancaster-accelerator-mass-spectrometer>.