

Sample Form for Laser-based HR-ICP-MS

Element XR coupled with an Excimer Laser Ablation System

Radiogenic Isotope Geochemistry Lab

The Analyte laser ablation system by Photon Machines Inc. is powered by an ATLex 300si, with a wavelength of 193nm and pulses of < 4 nanosecond duration.

Sample type:

Type of mount:

Estimated number of samples:

Isotopes to be analyzed:

Internal standard:

List of standards and standard matrix:

Protocol for laser ablation

- Charges will apply to method development and sample evaluation.
- The lab provides 4 NIST standards (610,612,614,616) for the users. However, contact manager if other standards will be used. See <http://georem.mpch-mainz.gwdg.de> for reference materials.
- Samples for laser ablation analysis are usually mounted on American-size 2" x 1" (50 x 25 mm) microscope glass or as polished grain mounts embedded in epoxy resin (25 mm diameter circular plugs). The sample tray in our lab can hold 4 plugs and one thin microscope slide. Best results are achieved from samples with clean, flat and polished surfaces. For the trace element concentration measurements it is important to know the content of the "internal standard" in the sample. The choice of internal standard will depend on the sample matrix, but normally, one of the major elements whose concentration can either be determined independently (e.g. by electron microprobe) or can be estimated from mineral stoichiometry is used.
- Training will be provided to users by the lab manager according to their needs and anticipated period of time on the ICP. The lab manager will help set up and run the instruments until the user feels comfortable with the procedure. Laser ablation is not automated, so the user should be present throughout the sample analyses.
- Before scheduling time on the ICP in the lab calendar (<http://my.calendars.net/radiogeniclab>), the user must fill the form and e-mail it to the lab manager. Feel free to contact the lab manager if you have any further questions.