



ArgonLab Freiberg
Institute of Geology
TU Bergakademie Freiberg

ArgonLab Freiberg – user regulations

valid since 01.10.2023

To cover running costs for consumables, maintenance and operation of the ArgonLab, the following costs need to be calculated in cooperation projects (note that taxes (VAT) are not included).

Starting from pure mineral separates or in the case of phenocryst free volcanic rocks from whole-rock groundmass fragments provided by the user (typically 5 – 50 mg at a size of 250-500 µm), costs include sample washing in acetone, alcohol and deionized water in an ultrasonic bath, and where necessary, leaching in diluted acids, including HF. They also include neutron irradiation and shipping to and from the reactor, measurement by the lab staff, data reduction and age calculation. Results will be provided electronically in spreadsheet compatible formats for further processing.

Note: Machine time per step in step heating experiments or per grain in single grain total fusion experiments is between 30 and 40 minutes. A single experiment thus corresponds to about 8 – 12 hours machine time (not considering blank measurements and instrument tuning & setup).

Step heating experiments on multi grain separates

Costs are per experiment, i.e. per separate

With thermal laser (e.g. biotite, white mica), 15-20 steps	855,-- €
With HTC furnace (e.g. whole-rock, amphibole), 15-10 steps	945,-- €

Single grain total fusion by thermal laser heating

Up to 40 grains, <i>per grain</i> (mica, sanidine, hornblende)	26,34 €
Additional grains, <i>per grain</i>	18,62 €

Effort and costs depend on the amount of samples to be dated, leading to the following adoptions:

Dating of a single sample:	+15%
Dating of 6 – 10 samples:	-10%
Dating of >11 samples:	-15%