



Miniaturised TOF mass spectrometers

U. Rohner, J. A. Whitby and P. Wurz

Physikalisches Institut, University of Bern (urs.rohner@phim.unibe.ch)

We have built a prototype of a miniaturised Time of Flight mass spectrometer for the in situ analysis of soils. It has a low mass (< 500 g, including electronics) and low power consumption so that it can be used in future manned or robotic space missions, e.g. onto Moon, Mars and Europa. Particles will be set free from the surface and ionized by short laser pluses. The mass spectrometer is dedicated to measure the elemental and isotopic composition of almost all elements of a planetary surface with an adequate dynamic range, mass range and mass resolution. We will present first results of our prototypes and future designs.