

Concept of a small high resolution mass spectrometer

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A theoretical study for a novel highly miniaturized and high resolution time-of-flight mass spectrometer will be presented. Depending on the used ion source, this spectrometer will be able to measure trace elements and isotopic abundances in either atmospheres or planetary surface materials. Design goal is a rugged instrument with a mass below 100 g. The instrument has to withstand a hard landing on a planetary body and be able to operate in a harsh environment.