



## **Micromechanical shutter based particle velocity filters for application in space**

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New shutter systems based on MEMS (Micro-Electro-Mechanical System) technology allow to build new types of ultra-low weight mass spectrometers for application in space. Applications include compact velocity filters for charged or neutral particles, and the replacement of the conventional carbon foil or secondary electrons emitting start surface used in time-of-flight mass spectrometers. Flight-verification of the MEMS shutters will be done with the PRIMA instrument (PRISMA Mass Analyzer), an instrument with a possible opportunity for launch on the the Swedish Space Corporation's PRISMA satellite in 2008.