



## Sputtering of glass dust grains

Marek Vysinka, Jakub Vaverka, Jiri Pavlu, Jana Safrankova, and Zdenek Nemecek

Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic (vysinkam@seznam.cz)

Dust grains in space are exposed to energetic ions, electrons and UV irradiation. Impact of energetic ions can lead to sputtering of the grain, consequently resulting in grain destruction during long-term exposures.

For the presented study we chose spherical  $\text{SiO}_2$  grains with diameter in the range of 1 micron as a representative of silicate-type space dust. Our experimental set-up enables us to catch and to store single dust grain which can be sputtered by the ion beam. The mass of the grain is measured after each sputtering session and we can judge the sputtering efficiency from temporal changes of the mass.

Our results suggest that the mass change is around 1.5% per 3-hour bombardment of 1.1 keV Ar ions which corresponds to the yield of the order of unity. The measurements on glass grains are compared with previous measurements on gold grains.