

Na enhancement and spectral properties of slow meteors

Pavol Matlovič, Juraj Tóth, Leonard Kornoš

The detection of Na enhancement in meteor spectra is generally complicated by the strong influence of meteor speed on the detected Na/Mg ratio. The classes of Na enhanced and Na rich were defined to represent composition distinct from common chondritic bodies. We will present determined orbital and structural properties of meteoroids with Na enhanced and Na rich spectra. Our data suggest that the Na enhancement among slow meteors generally does not reflect real compositional signature. These results are in agreement with the determined Echelle spectra of ablating meteorite samples in plasma wind tunnel at conditions corresponding to the lower limit of meteor speeds. For Na rich meteoroids, the apparent spectra can be used as a tracer of the asteroidal origin confirmed in all our samples. Majority of these bodies is likely of chondritic composition and represent fragments of Apollo type asteroids.