

## Reanalysis of the cosmic dust L 2011 S2 and L 2009 I14 NASA samples

I. Kapišinský

Astronomical Institute of the Slovak Academy of Sciences, Interplanetary Matter Division<sup>1</sup>

J. Ivan, K. Iždinský

Institute of Materials and Machine Mechanics of the Slovak Academy of Sciences<sup>2</sup>

Z. Pánek

Institute of Inorganics Chemistry of the Slovak Academy of Sciences<sup>3</sup>

M. Zemánková

Institute of Materials and Machine Mechanics of the Slovak Academy of Sciences<sup>2</sup>

**Abstract:** In this study the cosmic dust samples L 2011 S2 and L 2009 I14 have been reanalysed. Particles were obtained from the NASA Johnson Space Center(JSC) Cosmic Dust Collection. The reanalysis of the particle L 2009 I14 near the equilibrium state shows the 6.7 mass % of SiO<sub>2</sub>, and 60; 16.7; 5.4 and 11.2 mass % of pyroxene, cordierite pentlandite and iron silicide Fe<sub>2</sub>Si, respectively.

In the case far from equilibrium state there can not be excluded a presence of other phases as bronzite or hypersthene or klinoferrosilite as well as troilite and pyrrhotite and sluggish crystallised pyroxene.

For particle L 2011 S2 it was not possible to make any reliable qualitative conclusions due to problems mentioned in the paper.

**Key words:** cosmic/interplanetary dust – chemistry – analytical electron microscope – porous chondritic micrometeorites

---

<sup>1</sup> Dúbravská cesta 9, 845 04 Bratislava, Slovak Republic; e-mail: astrorom@savba.sk

<sup>2</sup> Račianska 75, 831 02 Bratislava, Slovak Republic

<sup>3</sup> Dúbravská cesta 9, 845 36 Bratislava, Slovak Republic