Composition of Iron-Bearing Phases in Nantan Meteorite as Determined by Mössbauer Spectrometry

Július Dekan

Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and Information Technology, Institute of Nuclear and Physical Engineering, Ilkovičova 3, 812 19, Bratislava, Slovak Republic

Corresponding author: julius.dekan@stuba.sk

Abstract. Mössbauer spectrometry is employed for the phase composition analysis of iron-bearing phases of a Nantan meteorite. This meteorite is classified as iron, IAB-MG [1]. Based on spectral parameters of obtained Mössbauer spectrum, kamacite and small amount of magnetite was identified. Observed paramagnetic dublet with quadrupole splitting value of 0.8 mm/s can be ascribed as superparamagnetic iron oxides nanoparticles, or possibly paramagnetic iron oxides like akageneite, or ferrihydrite. No traces of troilite, fayalite or pyroxene were identified.