

## **The relation between anisotropy of magnetic susceptibility (AMS) and mineral filling of foraminifers**

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The comparison of bio- and magnetostratigraphic data in four sections of Jurassic-Cretaceous sediments of Mountain Crimea and Saratov region (Russia) detected the presence of correlation between the AMS parameter T and the amount of foraminifers in rock sample: disk-shaped magnetic particles dominance is connected with high quantity of foraminifers and therefore, cigar-shaped particles signify low foraminifer content. Parameter T (shape parameter) representing the magnetic particle form: T values close to 1 indicate the plain (disc-shaped) form of magnetic particles, T values close to (-1) highlight the prolate (cigar-shaped) form.

To understand the nature of this interrelation a few disc-shaped foraminifers were studied using microprobe analysis. The results of this study have shown that inner spaces of foraminifers are completely filled by pyrite, which grains are covered with thin magnetite tape (the thickness of the tape is less than 200 nanometers). We suppose that this magnetite tape provides the main influence to anisotropy's character.

In the Maastrichtian of Mountain Crimea the relation between AMS and amount of foraminifers appears to be more significant after the heating of samples in the muffle furnace till 500°C during 1 hour. Primary magnetic texture was nearly chaotic, but after the heating it acquired the view peculiar to rocks containing plain ferromagnetic particles, formed in calm hydrodynamic environment. This event may be explained by transition (at the temperature of 450°C) of non-magnetic pyrite, fulfilling the inner structure of foraminifers, to the high-magnetic magnetite.

The relations between petromagnetic parameters and special aspects of micropaleontological complexes involve studies that are more special because they gain much interest and perspectives in the area of sedimentological and paleoecological reconstructions.

The finance part of the study was supported by RFBR: Russian Foundation for Basic Research (projects №№ 16-35-00219-mol\_a, 16-05-00703\_a, 16-35-00339-mol\_a).