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The reflection of the environmental changes on the paleomagnetic record of sediments from the 130-10 ka Tuzla section (Taman Peninsula, Russia)

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Rock magnetic and paleomagnetic investigations of terrestrial and marine sediments from the Tuzla section have been made in the time interval 130-10 ka. The Tuzla outcrop is located on the western part of the Taman peninsula in S. Russia. The Tuzla section is exposed at a Sea terrace of the Karangatian-Eemian age. The upper part of the section is made up of an alternation of loess and paleosol layers through about 4 m of the profile, spanning the time interval from 50 to 10 ka and corresponds to the oxygen-isotope stages 2-3. The lower part consist of marine deposits through the lower ˜8 m of the profile. This marine deposits are made up of three sediments cycles and correspond to the 5 oxygen isotope stage. A mollusk fauna is found in the sands. To further constrain the age of the interval, absolute ages were determined by U/Th on the shells and gave an age of 96 ka BP. This interval represents approximately the period 120 000-70 000 years BP of the Quaternary. So there is a 20 ka's break. On this interruption fall down the tectonic activity phase which was fixed in the Crimea and in the Caucasus during the time interval of about 50-70 ka BP. The varied lithology points to some changes between terrestrial and marine sediments. Analyzing the variations of the main magnetic parameters such as magnetic susceptibility K (low-field and high-field susceptibility), saturation isothermal remanent magnetization (SIRM), anhysteretic remanent magnetization (ARM) measured in 2-cm intervals suggested that the sediment column may be divided magnetically into two zones. The top of the sequence (from 0,9 to 3,7 m) consists of the Brynsc soil layers Br1 and Br2 and loess horizons which are weakly magnetic with low K , NRM, SIRM, ARM values, which suggest a low concentration of ferromagnetic minerals. The low variability of the mag-

netic parameters and even decreasing in the Brynsc soil layer Br1 can be concerned that the water logging. Stagnant water becomes exhausted of oxygen, and minerals containing iron in the reduced state are formed. Mean value of magnetic susceptibility slightly decreases between the glacial loess (stage 2) and the underlying interstadial Brynsc paleosol Br1 (stage 3.1) and some increasing in the underlying loess (stage 3.2) and nearly stay the constant in the underlying Brynsc paleosol Br2 (stage 3.3). This magnetic depletion caused by the pedological process of gleization. The low zone from is characterized by some higher magnetization intensities and hence some increased concentration of ferromagnetic minerals. The mean value for marine deposits of K is about 1.5 time higher then mean value for terrestrial part. More over the variations of the concentrations are not so homogeneous as like in the terrestrial sediments. This changes in the magnetic susceptibility values can reflect the changes in the magnetic particles concentration. The magnetic mineralogy of the sediments of the Tuzla section is quite variable and reflects the paleoenvironmental changes. The work was supported by INTAS grant N 03-55-2310.