

ROCK MAGNETIC AND DRS CHARACTERISTICS OF LOESS-PALAEOSOL SEDIMENTS FROM BULGARIA AND THEIR LINK TO PALAEO-ENVIRONMENTAL CONDITIONS

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One of the best preserved terrestrial records of past climate are in loess-palaeosol sequences around the world. Except classical Chinese loess, European sequences are widely used for palaeoenvironmental reconstructions. Low Danube loess deposits are part of the south-eastern loess cover, linking loess belt in Asia with Central European loess. Its magnetic properties have been extensively studied, putting emphasis on present continental conditions. In the present work, role of Black sea as climatic factor playing role in setting up rock magnetic properties of samples from Durankulak loess outcrop have been studied. Combined use of magnetic and DRS data show that magnetic enhancement of palaeosols is accompanied by an increase of hematite content, suggesting that pedogenic maghemite (magnetite) and hematite are simultaneously formed during warm interglacial periods. Comparison with data from a loess-palaeosol section in the countryside (away from maritime climates) suggests that more humid and warmer conditions favour faster growth of pedogenic Fe oxides towards stable SD magnetic grain sizes. Possible role of diagenetic effects will be discussed.

loess and palaeosol sediments, maghemite, hematite, DRS

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