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Palaeomagnetic investigations of sediments cor from Axios zone (N. Greece): implications of low inclinations in the Aegean

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Abstract. Sediment cores from 13 deep boreholes (1–4.1 km) distr within Axios zone in Northern Greece have been studied by means palaeomagnetism. Both low field magnetic susceptibility and intens the natural remanent magnetization (NRM) indicate rather weakly magnetised materials. A set of 390 samples have been subjected thermal and alternative field demagnetization. Isothermal remaner magnetization (IRM) acquisition curves and thermomagnetic analys suggest the dominance of magnetite. Thin sections from 30 selecte samples were studied in order to more precisely characterise their magnetic mineralogy. This investigation also reveals the presence magnetite and pyrite in framboidal form. An attempt to re-orient sc the samples was partially successful by using the viscous compone the anisotropy method. These techniques were applied in order to the palaeomagnetic directions due to the orientation ambiguity of samples. The corrected mean direction converges towards an east value, in agreement with the overall pattern of the onshore results previous investigations in the study area.

Finally, the observed inclinations of characteristic remanences in th rocks are much lower than the expected ones but converge with t obtained from formations on land.

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