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Abstract content:

IRD characterization, provenance and age in the Galician Interior Basin

The Galician Interior Basin sediments have a particular palaeoclimatic interest, as they are located in the boundary where the climatic oscillations of the glacial interval were interrupted by extreme events such as Heinrich events (HE). The sedimentary expression of these events is characterized by the presence of distal Ice Rafted Detritus (IRD). IRD layers can be identified by the rapid increase in magnetic susceptibility values (κ) up to $400 \times 10^{-6} \text{SI}$, from background values lower than $100 \times 10^{-6} \text{SI}$ providing key information on climatically forced events and allowing a tighter chronostratigraphic control. However, the mixing of these materials with local/regional components may difficult their depiction, and also the occurrence of diagenetic processes that alter their original magnetic composition, to the point of under detection by standard magnetic analysis (susceptibility).

The aim of this paper is the environmagnetic and geochemical characterization of these distal IRD occurring in the area and the study of their age and provenance related to the last six HE. In order to achieve these goals we measured their magnetic properties, their chemical and mineralogical composition and performed the analyses of Sr and Nd isotope ratios measured in the detrital fraction of one of the cores.

This study explores the potential of magnetic properties as a tool to discriminate Heinrich layers provenance in base to differences in their magnetic mineralogy assemblages.

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