



Stratigraphic significance of detrital and diagenetic rock magnetic features of recent marine sediments across the North Western Atlantic Iberian Margin

Daniel Rey

Dpto. Geociencias Marinas, Universidad de Vigo, 36200 Vigo, Spain

(danirey@uvigo.es / Phone: +34 986 812004 / Fax: +34 986 812556)

The magnetomineralogical tracers preserved in recent marine sedimentary record allows the reconstructions of variations in the fluxes of different sediment components to the sea floor and their forcements, and ultimately to reconstruct the original environmental conditions of the sediments and the water column (including redox conditions) over different time scales.

Much of the sedimentary magnetic signal in marine environments is controlled by the variability of detrital inputs, especially ice-rafted debris, fall-outs from nepheloid layers and wind blow-outs. Theirs special magnetic properties are generally used as proxies to identify well documented climatically forced events to establish the stratigraphic correlation of cores and to construct age models. Sediment accumulation rates and several postsedimentary processes like oxygen diffusion from oxic bottom waters into the sediment; sea bed remobilization by benthic organisms and currents; primary productivity; will determine the degree of alteration of these primary signals and the preservation of their environmental information during redoxomorphic diagenesis that takes place during early burial. Furthermore, the nature and rate of early diagenetic modification in the sedimentary record holds information on their own, and can also be used as proxies for changes in sedimentary paleoceanographic conditions affecting productivity or sediment accumulation rates

This paper will show several examples across the north western Atlantic Iberian Margins in a transect comprising shallow stuarine-like environments, open continental

shelf deposits and turbiditic dominated deep marine sediments, in which the variability and importance of these processes is assessed.