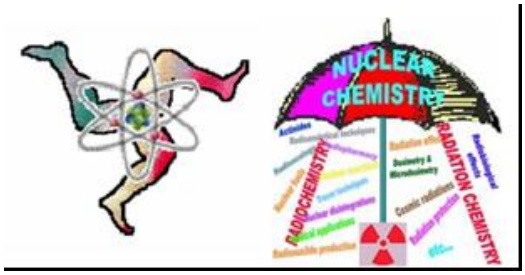

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Characterization of REE from NE Portugal using Instrumental Neutron Activation Analysis

Wednesday 21 September 2011 11:20 (15 minutes)

The main objective of this study is the elemental characterization of geomaterial samples ("soils", rañas and mother rocks), in terms of rare earth elements (REE), collected between 2007 and 2008, in the Morais Massif, (NE Mainland of Portugal) by using Instrumental Neutron Activation Analysis (INAA). The group of samples labeled "soil", includes representative portions of the inorganic component (after C-removal) of the poor (immature) soil that rests over metaperidotite and metagabbro rocks belonging to the Morais Allochthonous Massif. Raña is a debris flow deposit typically composed of heterometric and (sub)angular pebbles of resistant materials (mostly quartzite, lidite, and milky-quartz masses) in a clay-supported matrix; relatively quietness periods of sedimentation between consecutive debris flow events are marked by discontinuous clay horizons variably enriched in silt or sand fractions. Samples (soil, mother rock and rañas) granulometric fractions lower than 63μm were separated and analyzed at the Portuguese Research Reactor, RPI. Chondrite normalization is done in order to obtain patterns indicators of REE anomalies. REE concentrations in soil samples are roughly half of the ones in the rañas.

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