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DETAILED AMS AND STRUCTURAL STUDY OF A MAJOR TECTONIC CONTACT IN THE VARISCIDES (MORAIS MASSIF - NW IBERIA)

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We present a detailed magnetic fabric study of the Azibo (NE Portugal) contact that puts almost planar Orthogneisses from a Continental Terrane over strongly deformed amphibolites/greenschists from an Ophiolitic Terrane. This thrust corresponds to a major tectonic event occurred ca. 390Ma ago, and is of fundamental importance for the study of the obduction processes associated with the built up of the Variscan Belt. Gneisses are composed of K-spar (>Or90) porphyroclasts within a fine matrix of qtz + bt + ms + K-spar + An10-30 plag + Fe-gt (sph (apt. The observed structure is a planar, gently dipping, mylonitic foliation; locally, a N-S stretching lineation is defined by plastically deformed minerals and recrystallization tails of porphyroclasts. Amphibolites consist of Mg-amph + plag + ept + Ti-oxides (qtz; the metamorphic layering is strongly deformed by folds with sub-horizontal hinges striking 220° and axial planes with identical strike and dipping 30°NW. A second foliation developed axial planar to minor chevron folds, defining an intersection lineation with the metamorphic layering. Locally, a mineral lineation defined by prismatic crystals of ept is developed. Both lineations are parallel to the fold hinges. Bulk magnetic susceptibility values are very well grouped, reflecting a homogeneous distribution of the magnetic carriers. The shapes of magnetic ellipsoids range between oblate (long limbs) and prolate (short limbs). Intermediate, but mostly neutral, shapes belong to the hinges. The magnetic lineation is sub-parallel to the mesoscopic lineations. Orientation of the magnetic foliation is usually accordant with the folded metamorphic layering. There are, however, significant differences between dip values at the hinges and short limbs: the pole of the metamorphic layering is subhorizontal at the short limb, while the magnetic foliation poles! dip between 30° and 50°. This discrepancy is discussed in terms of multi-scale deformation processes and/or relationship between metamorphic layering and magnetic fabric.