Geophysical Research Abstracts, Vol. 7, 01463, 2005 SRef-ID: 1607-7962/gra/EGU05-A-01463 © European Geosciences Union 2005



Structural and magnetic evidence for passive clockwise rotations along the south-western edge of the Calabria-Peloritani Arc (Peloritani Mts., southern Italy)

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The combination of structural analyses with the results of a study of *Anisotropy* of *Magnetic Susceptibility* carried out on the *Longi-Taormina* and *Fondachelli units* along the south-western edge of the *Calabria-Peloritani Arc* (*CPA*) indicate a passive tectonic clockwise rotation of the Alpine *Peloritani Thrust Belt*.

Tectonic fabrics and magnetic lineations form a "*Z-shape*" pattern in plan view. This gradual change in orientation implies that the structural and magnetic fabrics were deformed as passive markers recording clockwise rotation during the Middle-Upper Miocene.

Such rotations are probably due to the processes responsible for the arc-shape of the *CPA*. Most authors have interpreted this arc as a primary arc reflecting the original geometry of the African or European Mesozoic palaeomargin. As such, the Peloritani terrains (crystalline basement and cover units) during the Mesozoic should have been distributed along E-W trending belts parallel to the palaeomargin. Our restorations of an Aquitanian ramp are consistent with such a palaeogeographic reconstruction and confirm the primary arc interpretation. Recent research on modeling of strain in primary arcs demonstrates that passive rotations can occur and therefore the rotations identified here do not preclude a primary origin for the *Calabria-Peloritani Arc*.