



Sedimentary and tectonic burial evolution of the Western-Central Rif Belt (Morocco): constraints from petrography and Raman spectroscopy on organic matter, clay mineralogy and structural investigations

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The Rif Belt, in Morocco, represents the western edge of the Maghrebides system that underwent significant alpine deformation during the collision between the African margin and the southern margin of the AlKaPeCa domain, since early Miocene times.

This contribution aims at a quantitative reconstruction of the main tectonic processes driving the Maghrebian Flysch thrust sheets on top of the northern African passive palaeomargin (namely Intrarif sub-domain) during Middle Miocene accretionary prism building.

The methodological approach consists in combining petrography and Raman micro-spectroscopy on organic matter, X-ray diffraction of clay minerals, 1D thermal modelling with viable cross sections preliminary reconstruction. To define the thrust sheets stacking pattern and evolution and their burial-exhumation paths, two regional cross sections from the Internal to the External Domains will be presented and discussed. They are located between the Restinga village and the South of Tangier city (Northwestern Rif), and between the Beni Bousera massif and the East of Ouazzane town (Central Rif), respectively.

Preliminary paleo-thermal data from the Maghrebian Flysch basin accretionary wedge indicate levels of thermal maturity between the base and the central portion of the oil window and their distribution could indicate a significant progressive increase of tectonic/sedimentary load from the rear to the front of the wedge squeezed in-between the Internal Domain back-stop and External Domain units