

## **Decollement and Tectonic Inversion Duality During Tangential Processes Initiation in the Palaeozoic Cover of South-Western Anti-Atlas and its Zemmour Extension (Morocco)**

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Detailed analysis of the Hercynian deformation in the southwestern part of the Anti-Atlas leads to highlight three submeridian juxtaposed structural zones of different tectonic styles associated with a deformation gradient that decreases towards the east:

- allochthonous domain : the most western region, involving Atlantic offshore, where tangential tectonics prevail, with overthrust folds dipping eastwards as imbricate slices, developed during major ante-phase D1 episode and overprinted by clear tectonic succession of D2 and later D3 deformation. Palaeozoic cover is disconnected from its base by reduced tectonic inversion in a typical thin-skinned deformation style.
- Parautochthonous domain: where cover decollement results from tangential slides without total tectonic inversion of base block. Toward the Precambrian inliers border, the Palaeozoic cover behaved in dextral strike-slip movements and rare vertical movements that correspond to a mixed tectonic model which links thin-skin and thick-skin deformation styles.
- Autochthonous domain: the most eastern area, inversion tectonics control the deformation distribution into thick-skin style, recording a reduction in tangential mode as well as a lack of D1 and D3.

The reactivation of successive tectonics states suggests a continuum of deformation where Hercynian structures are developed by tensor fluctuations between WNW and WSW directions remaining sub-horizontal; although the possibility of a Caledonian event associated with the early episode of D1 is still likely.

The south-western Anti-Atlas and the linkage of Zemmour- Ouled Dhim presents clear affinities with the Mauritanides and together these comprise a completely external tectonic foreland for this and the Appalachian Mountain chains. The Palaeozoic kinematics and geodynamic imply the possibility of an expulsion toward north of all the NW edge of the craton by a dextral transpressive movement subsequent to a relative anti-clockwise rotation of the whole Gondwana.

Key words: Hercynian, Thin-skin tectonic, tectonic inversion, Anti- Atlas, Zemmour-Ouled Dhim, Morocco, Gondwana.