Geophysical Research Abstracts, Vol. 9, 11136, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-11136

Contrasting styles of contractional deformation in the Apennine fold-and-thrust belt and in the Mid-Adriatic Ridge

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Two distinct zones of contractional deformation are located in the outer sector of the Central Italy and in its adjacent Adriatic offshore.

The Central Apennines fold-and-thrust belt developed during Pliocene-Lower Pleistocene and its outer NNW-SSE to N-S trending thrust front extends from Ancona to Pescara. In the northern sector of the study area, the Apennine chain is partially exposed in outcrop between Gabicce and the Ancona promontory, where NE-verging compressive structures affect both the Mesozoic-Cenozoic evaporitic and carbonate cover and the overlaying Pliocene-Pleistocene siliciclastic sediments.

Towards the south the Apennine thrust front is largely buried underneath a thick foredeep-basin infill, Pliocene-Pleistocene in age, and in subsurface thrusts are oriented N-S, are generally low-angle and deform the siliciclastic deposits that are detached from the underlying carbonate sediments.

In the Adriatic off-shore the compressive deformation is restricted along a NW-SE trending ridge that extends from the Ancona offshore towards the south-east and merges with the positive structures of the "Dorsale di Galligani" and the Palagruza high (Croatian offshore).

The Mid-Adriatic ridge is composed by several N-S, E-W and NW-SE oriented folds generated by high-angle reverse to transpressive faults that promote salt tectonics. In addiction positive inversion tectonics and reactivation of Mesozoic extensional discontinuities has been documented.

In this study, based on the interpretation of about 10.000km of industrial seismic re-

flection profiles and of recently acquired deep seismic data (i.e. CROP profiles) tied to exploration wells, the structural setting of the outer front of the Apennine chain and of the Mid-Adriatic Ridge has been defined in order to reconstruct the complex Mesozoic-Cenozoic evolution of these two contrasting zone of deformation within the Adria plate.