



## Inversion tectonics and Foreland dipping duplex in the Maritime Alps (Italy).

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In the external sectors of the Maritime Alps is more evident than in other parts of the chain that the architecture of the pre-collision extensional basin fault system exerted a strong influence on the thrust systems developed during tectonic inversion and the subsequent thrust development. A structural regional character that has to be evidenced deals with the attitude of thrust surfaces. These surfaces gently dip toward the hinterland in the inner sector of the chain, while in the external sectors their attitude changes (dipping toward the foreland).

The unit here considered (Ormea Unit) belong to the outermost Brianconnais domain. Its stratigraphic succession starts with Permo-Carboniferous continental deposits interfingered with andesites, followed by a very thick sequence of volcanic products.

The Upper Permian-Lowermost Triassic conglomeratic continental deposits (Verrucano Fm.), grading upwards into Schytian quartzites, rest unconformably on the eroded top of the volcanic complex. Up to 10-15 metres thick of green quartz-pelitic sediments, resting above the Schytian quartzites, grades to the Anisian-Ladinian shelf carbonates of Middle Triassic age. Finally, the sequence ends with Eocene neritic sediments. Regarding to the Alpine metamorphism it never exceeded the epizone.

The map of this area indicates that this unit is dismembered into a number of superposed tectonic elements, altogether depicting a duplex. A peculiar configuration of the examined sector is represented by the fact that strong contractions of pre-existing extensional faults and the stratigraphic sequence thickness changes prevent the development of a conventional ramp-flat geometry. The emplacement of successive connecting splay thrusts results into a “Foreland dipping duplex” forming an antiformal stack structure. Most of the horses display a large amount of internal strain expressed by overturned stratigraphic sequences, forward-verging pluridecimetric

folds, main foliation parallel to the thrusts and sudden lamination in the direction of the tectonic transport and at  $45^\circ$  to it