STRUCTURAL STYLE OF THE ONSHORE PART OF THE GULF OF CORINTH.

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A new structural model for the Corinth graben has been recently proposed. It suggests that the present day rifting is controlled by a north-dipping low angle detachment fault. This detachment outcrops on the south onshore margin of the Gulf of Corinth and corresponds to the north, offshore, with microsismicity and focal mechanism at depth. According to this interpretation the rifting is less than 1-1,5 Myr old.

Work presented here aims to illustrate the structural style of the southern onshore part of the Corinth rift with special emphasis on basin/fault organisation and linkage to the detachment level. Fault temporal kinematics has also been studied. Work is based on a recent field data collection, detailed mapping (1/30.000) around the Akrata area and construction of equilibrated cross-sections.

Tectonic style of this southern onshore margin is characterised by north-dipping (45-60°) listric normal faults, associated rollover structures and divergent mainly continental basin-fill deposits. Faults connect at depth onto the northernly gently dipping detachment. Detailed mapping allows to identify, from south to north, four main fault systems and associated basins. The first system is close to the emerging part of the detachment fault : it is locally back-tilted by regional uplift; the last system corresponds to the Gulf of Corinth. Successive lateral unconformities between basin-fill deposits allow to establish the basin/fault system evolution from south to north. This observation is presently being validated by absolute dating of fault calcites using the U/Th method.

E-W fault systems are characterised by a complex lateral architecture with fault segments and relay structures. Work is in progress to try to establish real time evolution of one of the fault systems by absolute dating (U/Th method) of different lateral fault segments. This procedure should allow us to better understand fault kinematics and fault evolution in a rift system.

Cross-section construction indicates detachment level irregularities, i.e. differences in depth and lateral detachment ramps. Irregular detachment surface seems to be responsible of the fault distribution and relay structures.

In addition, mapping shows that the detachment level in this onshore part is a neoformed structure does not reactivating ancient compressive structures.

In conclusion, we emphasize the structural style of the south part of the Corinth rift characterized by a low angle detachment fault and associated emergent listric faults.