P192 AUTOMATIC FAULT PATTERN RECONSTRUCTION AND 3D STRUCTURAL INVERSION

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The geological models obtained from the interpretation of seismic reflection datasetsare the final result of the analysis and synthesis of a remarkable amount of geophysical and geological information. Crucial steps in the formulation of reliable models are

- the identification of the fault pattern
- the inversion of the observed deformation

The former provides the necessary framework for the successive contouring phases while the latter aims at verifying the kinematic coherence of the final structural model. The first results of the implementation of a system for the integrated structural analysis of seismic data are presented. Solutions for the automatic fault correlation based on structural criteria have proved very promising. In particular the identification of network of subareas, characterized by internal structural homogeneity, where the fault points correlation may be substantially solved through a well constrained geometrical and kinematical analysis has been successfully tested on real data in the Central Mediterranean and the Black Sea. Tests of 3D quantitative structural inversion have been also carried out on geological models obtained from 2D seismic datasets. As far as extensional tectonics are concerned a basic volumetric and kinematic control of the interpreted deformation has been performed. Through the analysis of the final result the original models have been properly updated.