



## **Magnetic fabric in active folds from Central Iran**

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In Central Iran active strike-slip faults are concentrated along the tectonic boundaries of different crustal blocks (Yazd, Tabas and Lut). Deformation is mainly expressed by N-S right-lateral and E-W left-lateral strike-slip faults, which accommodate deformation related to the Arabia-Eurasia shortening by means of block rotation about vertical axis. The Tabas and the Shahdad fold and thrust systems are located at the northern and southern end of the right-lateral strike-slip Nayband fault, respectively, at the boundary between the Tabas and Lut blocks. On the other hand, the Ferdows thrust is located at the termination of the E-W oriented left-lateral Dasht-e Bayaz Fault, within the Lut block. All the three fold and thrust systems are active, as demonstrated by recent destructive earthquakes which occurred in those areas. The catastrophic 1978 Tabas earthquake ( $M_w = 7.8$ ) generated along a previously unrecognized NW- to NNW striking thrust fault with a small component of right-lateral strike slip. Two earthquakes (with  $M_w = 6.3$  and  $M_w = 5.5$ ) in 1968 occurred along a NNW-SSE oriented thrust in the Ferdows area. Finally, the 1998 Fandoqa earthquake ( $M_w = 6.6$ ) occurred along the N-S right-lateral Gowk fault and caused the reactivation of the NNW-SSE oriented Shahdad folds and thrusts system.

An integrated AMS and structural study was carried out in these three fold and thrust systems in order to describe their geometry and to associate the coseismic deformation with a suitable mechanism of long term fold growth. Integration of AMS and structural data defined geometry and kinematics of the fold system and indicated a pervasive deformation during the active growth of the fold systems.