

Evaluating the directional changes of central Alborz mountain using remotely sensed data

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Alborz mountain is located north of Iran and is part of Alpine fold belt it has a confluence in central part so that the trend of Western Alborz is from North-West to South-East, but the trend of Eastern Alborz change it's direction from North-East to South-West.

By using satellite remotely sensed numerical data (Landsat TM) and field observations, the delineating ductile and brittle features were identified. Interpretation of the structural data indicated the hing location for a directional change of Eastern and Western Alborz mountain and also the time of this rotation.

In this area many of the salt diapirs have been outcropped precisely through the fault's weak planes. In some places the salts diapirs expands so that, the faults traces are obscured. On the present geological maps of the area many of faults are not plotted becuae they were all prepared by arial photos, and the relations between salt diapirs and faults were not distinguished. Due to the ragged topography and extensivity of the area, common error in working with arial photo has increased so that the location of diapirs and faults traces were not correctly distinguished. These problems caused that, the long and important faults of the area be interpereted as a short and minor ones.

Statistical analysis based upon the spatial information particularly relevant to attitudes and surface traces of fundamental structural elements such as bedding, folds and faults show a reasonably close correlation with hing for a directional change of Alborz.

Since the direction of proposed hing of central Alborz correlate with direction of Eastern Alborz and according to field evidences, it can be indicated that, the change for Central Alborz was due to movements of Central Iran block toward Eastern Alborz. Some Seismotectonics evidences also confirm this hypothesis.