



The effect of cohesion coefficient in structural style Mangharak fault zone in Zagros belt

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Abstract: The N-S strike-slip Mangharak fault zone is located in Zagros simply folded belt, and continuous from about Shiraz to south of Dehram for about 140 km. Various large salt plugs such as Jahani, Firuzabad, Gach in the middle part of Mangharak fault zone, and small salt plug in Kaylag thrust pierce the cover layers. Existence of salt plugs in this area indicates presence of basal decollement viscous layers at depth. Which may cause variation in structural style above and below the decollement? Spatial distribution of decollement layers are analyzed through experimental analogue modeling method. Results indicate that the higher cohesion coefficient between basement rock and cover sedimentary sequence, the lower is width of deformed zone and the taper angle higher is of the thrust and fold belt. Existence of Hormoz salt complex has decreased the cohesion coefficient between basement and cover sequence. As a result, in the studied area the taper angle of deformed belt is variable and is closely related to the distribution of the decollement layers. In the West of Mangharak fault zone, cohesion coefficient and taper angle are high, width of deformed zone is low but in the East of Mangharak fault zone, cohesion coefficient and taper angle are low, width of deformed zone is high.

Keywords. Iran, zagros belt, simply folded belt, analogue modeling, strike – slip fault, cohesion coefficient, taper, salt