



GPS present-day kinematics of the Kopeh Dagh (Iran)

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The Kopeh Dagh fold and thrust belt in northeastern Iran results from the convergence between the Central Iran block to the south and the Turan shield and the Hellmand block (both part of Eurasia) to the north and east, respectively. 8 mm/yr of NS shear south of the Kopeh Dagh range is accommodated mainly by NS shortening across the Binalud and eastern Kopeh Dagh range (3.5 and 2.5 mm/yr), by right lateral strike-slip in the Quchan fault system in the central part of Kopeh Dagh (4 mm/yr) and westward expulsion of the South Caspian Basin in the western part of Kopeh Dagh (5-8 mm/yr). This expulsion is accommodated by right-lateral strike-slip on the Ashkabad fault in the north and left-lateral strike-slip on the Shahrud fault system in the south. Comparison of present day slip rates with total geological fault offsets indicate a deformation onset propagating from east to west supposing the observed slip rates have been constant over long time spans.