



## Crustal deformation studies of Zagros Mountains

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This study is concerned to the present-day crustal deformation of Zagros Mountains in Iran during the years 2006-2009. Based on relatively dense GPS network which covered the Zagros Mountains in western Iran, the stochastic behavior of eigenvalues and eigendirection of strain tensor are studied. We have divided the context into two parts: In the first part, we have considered independent random vectors of repeated tensor measurements. In the second step we have considered correlations between repeated measurements and we estimated a covariance matrix of measurements. Comparing the results show us, the estimated covariance components have influence on the confidence intervals of eigenvalue and eigendirection of strain components. These effects also reflect that the deformation patterns were not stable during the period of 2006-2009.