

DETERMINATION OF ANISOTROPY IN THE UPPER CRUST OF IRAN WITH CONCERN TO SHEAR-WAVE SPLITTING

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Shear-wave splitting has been used for describing anisotropy in different depths for many years. Wherever there are suitable digital recording seismographs, shear-wave splitting has been observed as a universal phenomenon. From 1990, digital seismographs have been used in Iran and now it is the first time that we are searching for anisotropy in the upper crust of Iran by studying this phenomenon. In this regard, we concern to three regions in Iran, Northwest (Ardebil), East (Ghaen-Birjand), and South of Iran (Shiraz). In these regions the data is processed by different methods and the splitting parameters (Direction of fast shear wave and Delay time) are determined. In addition, we estimate the average depth for anisotropy, crack density and direction of maximum horizontal stress in these regions and then with concern to crack density, the velocities of qP , qSv , qSh are determined by Hudson's crack model (Hudson 1980,1981) in anisotropic media. At last we compare the results in these three regions with each other.