



Subsidence Detection Using InSAR and Geodetic Measurements in the North-West of Iran

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The subsidence of the Earth surface is a phenomenon that occurs in some places in the world which overuse underground sources of water. As Iran has semi-arid and arid climate and the rate of rainfall is lower than the mean rate in the world then nowadays we are encountered by over-exploitation of groundwater in agricultural areas and also for extending the cities and industrial areas.

Geodetic measurements i.e., repeated leveling measurements of first order leveling network of Iran and continuous GPS measurements of Iranian Permanent GPS Network of Iran (IPGN), showed that there are subsidence areas in the north-west of Iran. In this paper we try to find the area and rate of subsidence in the north-west of Iran using InSAR and geodetic techniques. The result of InSAR technique shows a better understanding on this phenomenon in these areas and has a good consistency with accurate geodetic measurements.