Evaluating the trend of land subsidence using InSAR technique in Damaneh plain in Isfahan province, Iran

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Abstract

Using DInSAR1 techniques in the study of earth surface movements such as subsidence, acceptable results can be achieved. In recent years this way was considered by many researchers. The results of this method can be compared to verify the geotechnical methods and used for interpreting movements occurred. In this paper also to evaluation the process of Damaneh plain subsidence in Iran, from sensor radar data ASAR, 4 images related to the period from 2005 (track 250) and 3 images related to the period 2011-2012 (track 457) was used. These data were processed in software SARSCAPE and was determined the amount and level of subsidence from 5 interferogram obtained. Therefore subsidence rate was obtained in the period of 8 months of 2005, and ranged from 20110712 to 20120108, 7.6 cm and 7 cm, respectively. Subsidence in the northern part of Damaneh plains, Isfahan in Iran has spread greater, which that was adapted with joints and gaps been picked in the field.

Keywords: Subsidence, Interferometry, SAR

1 Differential interferometry Radar