

## **Determining the Kaki Earthquake properties with using InSAR Method, 2013, Kaki, southwest Iran**

Ramak Heidari (1) and Maryam Sedghi (2)

(1) University of Sciences and Researches, Tehran, Iran, (2) University of North Tehran branch, Islamic Azad University, Tehran, Iran

On April 9, 2013 Mw 6.3 Kaki earthquake in southern Iran occurred as result of northeast-southwest oriented thrust-type motion in the shallow crust of the Arabian plate, the depth and style of faulting in this event are consistent with shortening of the shallow Arabian crust within the Zagros Mountains in response to active convergence between the Arabian and Eurasian plates. What discussed in this thesis that is acquiring the earthquake parameters using InSAR measurements in this region.

This method does not have any control points in earth surface. With two dimensional information of the earth's surface by using the phase part of the radar signal, we can acquire DEM (Digital Elevation Model) of area. Then with the third image before or after shaking, we can compute ground deformations, with differential of InSAR.

InSAR has an extra accuracy around millimeter, that we can use this method to prediction earthquake, volcanoes etc.

Process of SAR images are available with different soft wares but what is used in this thesis, is Doris soft ware, which install in Linux space. Envisat satellite images are used in this case.