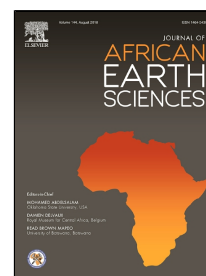


Accepted Manuscript

Stress transfer, aftershocks distribution and InSAR analysis of the 2005 Dahuieh earthquake, SE Iran

Camellia Yazdanfar, Majid Nemati, Maryam Agh Ataby, Mahasa Roustaei, Faramarz Nilfouroushan



PII: S1464-343X(18)30176-6
DOI: 10.1016/j.jafrearsci.2018.06.022
Reference: AES 3248
To appear in: *Journal of African Earth Sciences*
Received Date: 29 December 2017
Accepted Date: 19 June 2018

Please cite this article as: Camellia Yazdanfar, Majid Nemati, Maryam Agh Ataby, Mahasa Roustaei, Faramarz Nilfouroushan, Stress transfer, aftershocks distribution and InSAR analysis of the 2005 Dahuieh earthquake, SE Iran, *Journal of African Earth Sciences* (2018), doi: 10.1016/j.jafrearsci.2018.06.022

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Stress transfer, aftershocks distribution and InSAR analysis of the 2005 Dahuieh earthquake, SE Iran

Camellia Yazdanfar^{1,2}, Majid Nemati^{3*}, Maryam Agh Ataby¹, Mahasa Roustaei⁴ and Faramarz Nilfouroushan^{5,6}

1- Department of Geology, University of Golestan, Iran

2- Department of Geology, University of Uroumieh, Iran

3*-Department of Geology, Faculty of Science and Earthquake Research Center of Shahid Bahonar University of Kerman, Iran, 7616914111, nematimajid_1974@uk.ac.ir (Corresponding author)

4-Geological Survey of Iran, Iran

5- Department of Industrial Development, IT and Land Management, University of Gävle, Gävle, Sweden

6- Geodata Division, Lantmäteriet, Gävle, Sweden

Abstract

In this paper, the authors studied the 2005 Dahuieh Zarand earthquake in SE Iran by combining Coulomb stress changes, InSAR study, locally recorded aftershocks and their spatial correlations, coseismic slip distributions, Iso-seismal curves, and strong ground motion data. The event (M_W 6.4) occurred in Kerman province, SE Iran, on February 22, 2005. The locally recorded aftershocks were used to calculate the Coulomb stress changes and the decay time based on Omori's law. The decay time of aftershocks calculated by Omori's law was about 500 days. A great correlation was particularly deduced from the spatial distribution of the aftershocks and areas of increased Coulomb stress for optimal strike slip faults. Moreover, using SAR Interferograms, we determined the postseismic surface deformations. Also, the majority of the coseismic slips occurred in the eastern part, where there was sparsely distributed aftershocks. The deformation maps showed active uplift for at least 300 days after the main shock. We reconciled time decays of the aftershocks with the postseismic uplifts, calculated from InSAR. In our model, which is based on after slip evolution, for one of the postseismic relaxation mechanisms, we found a proper correlation between the aftershock decay time and InSAR

Download English Version:

<https://daneshyari.com/en/article/8913347>

Download Persian Version:

<https://daneshyari.com/article/8913347>

[Daneshyari.com](https://daneshyari.com)