

Interactive comment on “Geohazard risk assessment using high resolution SAR interferometric techniques: a case study of Larissa National Airport Central Greece” by F. Fakhri and R. Kalliola

F. Fakhri and R. Kalliola

falah.fakhri@utu.fi

Received and published: 10 October 2014

Anonymous Referee #2

Anonymous Referee #2

“Authors are trying to use InSAR and time-series InSAR analysis techniques to measure the ground deformation near the Larissa airport. The test site is important and may interest local people. However, I’m afraid that the authors have very limited knowl-

C2261

edge or experience of InSAR image processing. Their results showed very little information about the deformation pattern. I cannot accept this paper since the results are basically no support for their conclusion. I highly suggest authors co-operate with some InSAR expert and try to get a more reliable result since they have a very nice ground-water temporal and spatial distribution data. There are several general suggestions from my side, hope they will be help.”

AUTHORS RESPOND

As the first author has worked with SAR Interferometry for four years in this study area we do not feel that the comment of “very limited experience” is appropriate. We would also like to respectfully disagree with the referee’s suggestion about finding another InSAR expert to work with. The general suggestions made by referee 2 will be commented below and we highly appreciate the points that have been raised up.

Anonymous Referee #2

“1, Page 4747 Line 23. Here, why did you cite this paper? You are talking about standard differential InSAR technique, not PS-InSAR right? And why did you cite the conference paper of Ferretti et al, 1999? They have many journal papers.”

AUTHORS RESPOND

This paragraph has now been edited with more details have added to explain both techniques. We believe it is appropriate to refer to the work of Mr. Ferretti but there are also other papers cited (lines 25-27 in page 4747; lines 1-14 in page 4748).

Anonymous Referee #2

“2, Page 4748 Line 5-15 It is a bit confusing for the readers that you are using Persistent Scatterers techniques with “Permanent Scatterers”. I strongly suggest the authors rewrite this paragraph and make it clear which techniques you are going to use.”

AUTHORS RESPOND

C2262

To improve clarity and to enhance conceptual understanding, we are now using both scientific terms (“Persistent Scatterers techniques” and “Permanent Scatterers”) and additionally, more explanatory details have also been added about these techniques.

Anonymous Referee #2

“3, what do you mean “normalized deformation rate ?” the unit is mm or mm/a?”

AUTHORS RESPOND

In paragraph “4.2.1 Short term changes” we edited texts and also the legend of (Figure 4) has been edited to respond to this question.

Anonymous Referee #2

“4, Page 4749, Line 10, what do you mean “the perpendicular baseline was too small for a precise analysis”? On the contrary, the baseline condition is very good for a precise analysis.”

AUTHORS RESPOND

We would like to mention once more that the paragraph “4.2.1 Short term changes” has been edited. There is also a sentence that mentions the point that the perpendicular baseline was too small for strengthening a precise analysis

Anonymous Referee #2

“5 The images used are not high-resolution data.”

AUTHORS RESPOND

We would like to agree with the referee that not all of the images that are shown are in high-resolution. However, the airport area is shown with high precision data and it helps to distinguish high-spatial resolution ground deformation. In case the referee means that the figures that were submitted with the manuscript do not have good enough resolution, this problem will be corrected when the process will advance to the

C2263

phase of final printing.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/2/C2261/2014/nhessd-2-C2261-2014-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 4743, 2014.

C2264