

Interactive comment on “Earthquake-induced deformation estimation of earth dam by multitemporal SAR interferometry: the Mornos Dam case (Central Greece)” by S. Neokosmidis et al.

Anonymous Referee #1

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The submitted research article presents a study on deformation on a dam area observed by SAR interferometry. A possible correlation with the water level is pointed out. However some elements are lacking to have conclusions fully reliable. For instance, the last sentence of the conclusion is "Geodetic GPS measurements can be applied to validate and calibrate results". It is rather unusual to discuss and conclude on the basis of unvalidated data. If GPS/levelling data are available (the dam's owner is supposed to monitor locally the deformation of the structure by ground means) that should be used or any auxiliary information that could confirm the actuality of the de-

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formation and its causes must be added. Probably the opinion of the end-user on such results and what is the interest for him could be valuable (the sentence "Monitoring ... risk mitigation" says little about the practical usage of such deformation maps by the end user) as consequences of the deformation on the dam are not really discussed.

minor comments: p 7808 I think the section 3 about earthquakes is rather long respect to section 2. The issue of the dam deformations should be better introduced respect to earthquakes because it is in fact the main study object of the paper. p7813 "I2" is for Envisat, ERS had just one mode that can be used for insar p7814 explain why PSI techniques were not suitable in this case and why SBAS is better. I am not sure than Usai 2002 used SVD, the reference could be better used in the previous sentence p7815 "weighted". what information is used as weight ? UTM: give the zone p7819 "differential horizontal deformation" is observed. What is the consequence of such motion about the dam structure? p7820 "this difference ... previous period": is it certain or just an hypothesis ? In both cases, arguments must be given. "new very high resolution...Sentinel-1A" the IW mode mainly available for S-1A has not a better resolution than ASAR. figure 1: scale bar is required figure 4: location names should be magnified (difficult to read) figure 8 and 10: it is not clear how "seismic data" is located in the graph (magnitude? depth ? a 3rd y-axis seems lacking)

spelling errors: p 7808 "Dams" ,"supply", "essential", "safe" ,"ecological", "kinematic" p7819 Manzo or Manzon ?

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