

Interactive comment on “Pre-, co-, and post-rockslide analysis with ALOS/PALSAR imagery: a case study of the Jiweishan rockslide, China” by C. Zhao et al.

Anonymous Referee #1

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The paper describes the application of SAR-based techniques to characterize a large rockslide occurred on June 2009 in the Chongqing Municipality of China. The manuscript is concise and fairly well written, and the objectives of the work are clearly stated in the Introduction. Although the authors use conventional SAR techniques and do not provide any new insight on methodological issues, their case history is interesting and demonstrates how powerful these techniques are. The paper, however, needs some strengthening to support the results obtained by the analysis and to highlight the limitation of the methods. Moreover, it could be better arranged and a few sections need clarification. My suggestions are given below.

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1. Since the paper deals with the application of conventional techniques to a case study, the case study must be carefully described and properly illustrated. My suggestion is to end the Introduction at row 24 of pag.1801, and to add a new section (e.g. Section 2. Case study) that contains and further expands the description of the rockslide now reported in the second part of section 1 (from row 25 pag.1801 to the end). It's important to provide a map of the landslide showing the main geomorphological features of the phenomenon (main crown, deposition zone..) and its historical activity. The landslide description should refer to this map since the shaded relief reported Fig. 1 is not informative enough.

2. Add the landslide boundary in Fig.4 and 5, using different line styles to indicate the different historical/precursory movements (such as those shown in Fig.3), and explain more clearly which slope deformations are captured by the analysis of the pre-rockslide SAR data. For instance, it's not clear (to me) what are the two “driving and resisting blocks” described in section 4.1 pag 1808. Please add the two blocks in Fig. 5. This will probably explain why the higher displacement rate were recorded at the toe of landslide rather than on the crown area (a quite unusual behavior for an incipient rockslide).

3. Provide a figure showing the source-scouring-deposition areas detected by the analysis of the Intensity change (Fig. 7) overlapped to the aerial photograph of the rockslide. A direct visual comparison can be useful to appreciate both the potential and the limitation of this method for the automated mapping of large landslides.

4. I've not understood why the values of DEM change are both negative or positive in Fig. 9 (as expected) and only positive in Fig.8. Please check the consistency between the two figures.

Because of my background, I'm not competent in reviewing the technical details of the analysis. I kindly ask the editor to take care of this part (section 3 Methodology). In my view, however, the paper is interesting and suitable for publication after the required modifications are made.

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