

Interactive comment on “Estimating velocity from noisy GPS data for investigating the temporal variability of slope movements” by V. Wirz et al.

Anonymous Referee #2

Received and published: 28 April 2014

The article presents new and promising method for evaluating movement data collected by GPS stations aiming on correct velocity estimations. It correctly considers effects of tilting of measured surface on the total displacement and detected velocities. Its presentation is clear and well documented with figures. I have only minor comments regarding some methodological aspects and figures.

- Please elaborate more on how the presented method may be applied for early warning considering the identified drawbacks (e.g. problem in detecting timing of acceleration or underestimation of the absolute velocities during accelerated phases). Sudden and considerably high accelerations are types of movements, which detection is crucial for the hazard estimation.

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- I suggest you to change the first ten lines of the Abstract – at the beginning you talk about acceleration/deceleration and its timing, but then the reader finds out that your work is about “average velocities” of specific period. I do not see the link between the two parts of the abstract.

- Referring to the last paragraph of the Chapter 7 (Conclusions . . .), please summarize more clearly for which movement patterns is your method suitable and for which it needs further improvements.

- Please insert simple location map of the monitored sites with their GPS positions (could become part of the Fig. 1).

- For the rotation and tilting of the pos55, please add some explanation of this process, which is probably connected with internal dynamics of the rock glacier.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 1153, 2014.

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