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Interactive comment on "Automated classification of Persistent Scatterers Interferometry time-series" *by* M. Berti et al.

Anonymous Referee #1

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This manuscript addresses an automatic approach to classify PSI point targets into different types (uncorrelated, linear, discontinuous, etc.) so as to overcome the limitation of traditional representation of PS which is only based on the average velocity. The proposed method is novel and seems useful, but the reviewer fails to find any accuracy assessment of the proposed methodology. The reviewer is curious to see, for example, the commission and omission error for each category regarding the classification result. It seems that, for instance, type 0 and 1, along with type 2 and 3, can be very possibly misclassified. In consequence, the reviewer strongly asks for adding the accuracy assessment in the "result" section.

In addition, several comments and suggestion to be specified here:

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Page 218, line 11: Currently the toolboxes cannot be downloaded from the provided link. The reviewer asks for a trial of the toolbox (may be the test version, can be provided with the temporary link in "the response to reviewers") so as to test its functionality.

Page 222, section "Spatial clustering": The reviewer suggests to consider the following article regarding the spatial clustering of PS for landslide detection, so as for the section of "introduction": LU P., CASAGLI N., CATANI F., TOFANI V., 2012. Persistent Scatterers Interferometry Hotspot and Cluster Analysis (PSI-HCA) for slow moving landslides detection. International Journal of. Remote Sensing. 33(2).

Page 226, line 7: Why it is necessary to adjust the frequency peak to zero? What if the whole area is actually in the movement? The reviewer suggests considering the stability of the reference point.

Page 232, Fig. 1: Some trends are not so "typical" as described, for example, why type 0 is uncorrected but not classified as linear? Similarly, why type 1 is linear but not uncorrelated? Such confusion can be also found with type 2 and 3. As a result, corresponding statistics needs to be provided here to justify each type of trend.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 207, 2013.