

Interactive comment on “State fusion entropy for real-time and site-specific analysis of landslide stability changing regularities” by Yong Liu et al.

Anonymous Referee #3

Received and published: 29 November 2017

This paper proposes a new data-driven approach for real-time and site-specific analysis of landslide stability changing regularities based on a multi-attribute entropy analysis of deformation states from the aspect of landslide system. This approach was applied to different landslide and presented interesting results and could provide better information on site-specific landslide activity. Still, several revisions may help to improve the overall quality of the work. Firstly, the advantages and the limitations of existing methods seems too brief to emphasize the meaning and emergency of the proposed approach. The processes of the model is complex, please organize this part clearly. I suggest that the methods should be divided into several subsections. This method named “the proposed joint clustering method combining k-means and cloud model” should be refined. The part of “materials and results” should be correspon-

C1

dence with the part of “methods”. Secondly, in the “Deformation state definition based on K-means combined with Cloud Model”, a better explanation why deformation rate and acceleration are selected to define deformation states may be necessary. How the displacement data was chosen because it is quite common for a landslide to have multiple displacement monitoring points at present. Thirdly, in the “materials and results” section, only monthly displacement data was used and it seems not very consistent with “real-time” in the title. Since for now monthly monitoring displacement is mainly adopted in most studies, “monthly stability” may be more appropriate for the title. In the meanwhile, the discussion on the process of other monitoring frequency data needs to be added. Finally, “Discussion” and “Conclusion” present several repetitions and need a better description. Meanwhile, the English written of this paper should be modified carefully again.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-351>, 2017.

C2