

Interactive comment on “Transitional relation exploration for the typical loess geomorphologic types based on the slope spectrum characteristics” by S. Zhao and W. Cheng

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Thanks very much for reviewing our manuscript and giving many detailed suggestions, and we do our best to respond to these suggestions one by one, which are listed as the following:

ĩŸŸ 1. General comments: This is a very interesting paper addressing an important subject of transitional relation exploration for the loess geomorphologic types. For the highly erosion-prone soil that is susceptible to the forces of wind and water, morphology of the Loess Plateau is very complicated and mobile. The documented findings provide insight into possible hillslope process of the loess morphology. In terms of the

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methodology, slope spectrums analysis is novel and feasible in the loess geomorphology studies. The paper provides a useful tool to explore the process of topography evolution, not only for loess geomorphology, but also for other landscapes.

Thanks very much for your positive comment.

ĩŸŸ 2. Specific comments: (1) The authors mentioned that the transitional rule among typical loess geomorphologic types is widely acknowledged as from loess tableland to loess ridge and finally to loess knoll. However, it seems that the continuous transition relationship of the histogram skewness is not very obviously with increasing mean slope from loess tableland to loess knoll (Table.1). Then, is this adequate using the prior knowledge directly?

Thanks very much for your suggestion.

Undoubtedly, the slope spectrums of some sub-types are similar and very close. Hence, the transitional rule is acquired by comprehensively analyze the slope distribution tables, the slope spectrums, the tendency lines and the regression equations of these spectrums.

ĩŸŸ 3. (2) Some subtypes have similar slope spectrums, such as the oblique ridge and the knoll ridge. How to identify the transition relationship between them?

Thanks very much for your comment.

As to some slope spectrums are close, we make quantitative analysis to these spectrums, including the tendency line and the regression equation to distinguish them.

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