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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Assessing the effect of lithological setting, block characteristic and slope topography on the runout length of rockfalls in the Alps and on the La Réunion island" *by* Kerstin Wegner et al.

Anonymous Referee #1

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This paper presents a detailed analysis of deposited blocks on four study sites that are very different in terms of lithology and topography. The objective was to study the relationships between block propagation distances on the one hand and block properties (size and shape indicators) and topography indicators (mean slope, slope distribution, roughness, in particular).

The authors provided very detailed measurements of the above mentioned quantities based on analyses of Lidar data. The results obtained are very interesting as they differ from previous studies and thus moderate these results. The authors discuss

these interesting results in details.

I recommend publication of the paper provided that the following minor comments are integrated :

1) The calculation of topographical indicators (sections 3.2 and 3.3) are not detailed enough in my opinion. The authors only refer to previous studies. Additional information could be provided.

2) The figures are small and difficult to read (small font size, in particular - Figure 4,5, 6 and 7, in particular). They have to be improved.

3) Because the relationships between the run-out distances and topography/block properties are not clear, section 4.2 is very difficult to follow. This section should be clarified.

4) The authors mention that the deposited blocks are not only due to single blocks propagations, despite the analyses are based on this assumption. This point should be more emphasized / discussed.

5) p.5 l.101 : "show indicate " → typo ?

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