

Interactive comment on “Rockfall hazard assessment along a road on Peloritani Mounts (northeastern Sicily, Italy)” by G. Pappalardo et al.

Anonymous Referee #3

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The NHESS general Guidelines for Manuscripts & Submission indicate that manuscripts should represent a substantial contribution on new concepts, techniques or results. Concerning to the authors' answers: 1) The availability of the data set was not questioned in the review. The authors refer to the general statement that case histories on rockfall hazard assessment are welcomed provided that good quality data sets are available. In the case of Peloritani Mounts the data base is incomplete. Parameters such as frequency or size of the rockfall events, are assumed rather than calculated. 2) No question on that Peloritani Mounts is an interesting area. Modifications of the RHRS, including that of Budetta (2004), have been already proposed by several researchers (i.e. Di Crescenzo & Santo 2007 Quaternary Int. 171-172 pp. 118-130; Russell et al. 2008 CDOT-2008-7 report; Santi et al. 2009, Eng. Geol. 104:

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55-65 ; Ferlisi et al. 2012 Nat. Hazards, 62: 691-721; Budetta & Nappi, 2013 NHESS, 13: 1643-1653). In the reviewer's opinion the approach followed by the authors is not new. 3) Of course, stations belonging to Romana's II class may have better quality than others in the same road. It is arguable, however, that the SMR values of stations having unfavourable dipping joints parallel to the slope face (i.e. D-St-2, D-St-3 or D-St-4) could be so close to the values of the RMRbasic. The calculations must be revisited. 4) The comment was that the trajectographic analysis has not been validated. The kinetic energy might look low. However, for a 50kg-rock block it implies a velocity of several tens of m/s which is unusual for blocks of this size and particularly when the results in some profiles show that 100% of the blocks are able to reach the lowest part of the slope with increasing energies. Maybe the authors are confident with their results but they should support them with evidences. 5) I agree that decision Sight Distance DSD may affect the values of the RHRS of the lanes. Consequently, in section 1, outside lane must have higher DSD, however its score shows otherwise; sections 6 and 7 should have the same DSD in both lanes. Therefore, there must be another explanation for the higher values of the RHRS in the outside lane. 6) According to the authors' answer, they should not keep their conclusions.

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