

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

Anonymous Referee #3

Received and published: 25 March 2014

Checking the performance of procedures for assessing the rockfall hazard is always an interesting exercise provided that good quality landslide data sets are available. Unfortunately, this is not the case for the paper presented here.

RMR and SMR, CRSP and RHRS have been routinely applied for more than 20 years. The analysis of the Peloritani Mounts in Sicily does not bring any new insight that could benefit those interested in the rockfall hazard assessment. Finally, some results raise doubts about their consistency. Being more specific, (a) Despite the area is rated as high hazard (figure 7), the obtained SMR values are higher than the RMRbasic values (Table 1). Even though the studied rockfalls could occur in natural slopes, the Markland test shows (Figure 4) that both planar and wedge failures are feasible and this should have strongly penalized the SMR rating. Furthermore, SMR class II corre-

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sponds to good-stable slope with only occasional failures. The way how has the SMR been obtained deserves clarification. (b) The trajectographic analysis (CRSP) has not been validated. Given the size of the tested blocks (50kg), the kinetic energies (and runout) obtained are abnormally high (Figure 6) and the blocks do not stop at the end of the profile. These results do not look reliable. (c) In some road sections (Figure 7), the outside lane shows a higher value (higher hazard) of the RHRS than the inner lane (next to the excavated slope). How is it possible? (d) Finally, the conclusions are not the logical result of the analysis performed. The relation between the geological history, the seismicity and the occurrence of the rockfalls has not been treated in the paper. The possibility that shrubs could be used as protection measure against blocks traveling with a kinetic energy of 20KJ, has not been demonstrated.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 7167, 2013.