Natural Hazards
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Discussions

Interactive comment on "Detection of collapsed buildings due to the 2016 Kumamoto, Japan, earthquake from Lidar data" *by* Luis Moya et al.

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In this paper, the authors provide a building damage detection approach based on pre- and post-event Digital Surface Models (DSMs) extracted from Light Detection and Ranging (LiDAR) instrument. They extracted three features from DSMs. Then the SVM classifier was employed to detect damaged buildings from the extracted features. The performance of SVM and K-Means clustering was compared with respect to each other. Topic is interesting and the study is valuable. As the authors mentioned, there are a little studies in this field. I would like to mention some issues that can improve the manuscript from my viewpoint: -Abstract: I think the first sentence is not necessary. -Abstract: "Different methods for extracting the collapsed . . . " please revise this sentence. -Introduction: The authors can use the following papers in the literature

review to improve it: ∼Rehor, Miriam, et al. "Contribution of two plane detection algorithms to recognition of intact and damaged buildings in lidar data." The Photogrammetric Record 23.124 (2008): 441-456. ∼Schweier, Christine, and Michael Markus. "Classification of collapsed buildings for fast damage and loss assessment." Bulletin of earthquake engineering 4.2 (2006): 177-192. -Page 2, Lines 26-31: the presented aim is not clear. -Page 3: "(i.e., the reduced polygon is located inside a building footprint)" there is no need to use parenthesis. -Page 4: BDSM?? ADSM?? -I think it is possible to present "Detection of damaged buildings" section in a better and logic manner. For example, they firstly provided accuracy assessment measures and then presented SVM method. Their positions can be changed. -Although SVM is a famous classifier, it is necessary to provide some descriptions about that since it is directly used in the methodology. -Please express parameters selected for implementing SVM and K-Means over the study area. How could you adjust their parameters? -Conclusion: Please provide some future studies.