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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Assessing the quality of Digital Elevation Models obtained from mini-Unmanned Aerial Vehicles for overland flow modelling in urban areas" *by* J. P. Leit ao et al.

Anonymous Referee #3

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The paper discusses the advantage of DEM derived from UVA compared to the Lidar DEM; and analyzes the performance and application of UVA DEM. The paper does not seem to bring any advancement in the knowledge of UAV DEM mainly because only simple comparisons are conducted without any quantitative analysis. Here are some suggestions: (1) The authors need to explain what is the innovation of this paper, which should be clear in Section 1. (2) The overlapping degree is one of the most important parameters for high-res DEM generation, which should be discussed deeply. (3) In page 15, above section 5, what is the virtual flight purpose? And why was it made virtual for flight 14 and 11? Please clarify. (4) Lidar DEM is a completely different type

of technology, while UVA DEM is from low height UVA. If this Lidar was mounted on the UVA, the comparison would have more fair. The results are not comparable. (5) In section 4.2.1, the river is clear from Lidar DEM; why does it disappear from UVA DEM? (6) In section 4.2.3, the argument is focused on the tree (line 11, page 19); some quantitative analysis should be presented. (7) In page 21, the first conclusion is obvious and basic knowledge for a researcher. Furthermore, the Lidar can now be easly mounted on UVA, so it is not really a challenge for Lidar (in line 15). (8) From the Figure7, the difference between is UVA DEM and Lidar DEM is more than 20m, which influences the flowing overland flow model seriously. In this paper, the actual experiment, should be carried to validate the UVA DEM 's performance. The analysis in the paper is rather simple; it cannot support the authors' view-of-point. (9) Please check references and citations.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 5629, 2015.