

## Geometric Contrast of a 3D Model Obtained by Means of Digital Photogrammetry with a Quasimetric Camera on UAV Classical Methods

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**Abstract :** Nowadays, the use of drones has been extended to practically any human activity. One of the main applications is focused on the surveying field. In this regard, software programs that process the images captured by the sensor from the drone in an almost automatic way have been developed and commercialized, but they only allow contrasting the results through control points. This work proposes the contrast of a 3D model obtained from a flight developed by a drone and a non-metric camera (due to its low cost), with a second model that is obtained by means of the historically-endorsed classical methods. In addition to this, the contrast is developed over a certain territory with a significant unevenness, so as to test the model generated with photogrammetry, and considering that photogrammetry with drones finds more difficulties in terms of accuracy in this kind of situations. Distances, heights, surfaces and volumes are measured on the basis of the 3D models generated, and the results are contrasted. The differences are about 0.2% for the measurement of distances and heights, 0.3% for surfaces and 0.6% when measuring volumes. Although they are not important, they do not meet the order of magnitude that is presented by salespeople.

**Keywords :** accuracy, classical topographic, model tridimensional, photogrammetry, Uav.

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