



Surveys with UAV photogrammetry: case studies in l'Aquila during the post-earthquake scenario

Maria Alicandro, Donatella Dominici, and Vincenzo Massimini

DICEAA – Department of Civil, Construction-Architectural and Environmental Engineering. University of L'Aquila - Italy

The main advantages of using the UAV photogrammetry in a post-earthquake scenario it consist in the possibility to perform a complete documentation of the structures and infrastructures, eventually damaged by the earthquake, ensuring the safety of all operators during the data collection activities. The aspect of safety and accessibility in the area represents in fact a crucial aspect after an earthquake and sometimes some areas may result directly inaccessible, while at the same time it's necessary to collect data in order to monitor and evaluate the damages. The development of new algorithms in the field of Computer Vision drastically improved the degree of automation of the 3D point clouds generation using the photogrammetry techniques. In addition, techniques of data acquisition using the UAV allows to obtain 3D model with the highest as possible resolution especially with respect to the conventional satellite or aerial photogrammetry. These advantages make the UAV photogrammetry highly suitable for the surveys in a geo-hazard contexts as the post-earthquake. Some results of surveys with the techniques of UAV Photogrammetry and performed after L'Aquila Earthquake occurred in 2009 will be presented and discussed.