

3D Point Cloud Model Color Adjustment by Combining Terrestrial Laser Scanner and Close Range Photogrammetry Datasets

Authors : M. Pepe, S. Ackermann, L. Fregonese, C. Achille

Abstract : 3D models obtained with advanced survey techniques such as close-range photogrammetry and laser scanner are nowadays particularly appreciated in Cultural Heritage and Archaeology fields. In order to produce high quality models representing archaeological evidences and anthropological artifacts, the appearance of the model (i.e. color) beyond the geometric accuracy, is not a negligible aspect. The integration of the close-range photogrammetry survey techniques with the laser scanner is still a topic of study and research. By combining point cloud data sets of the same object generated with both technologies, or with the same technology but registered in different moment and/or natural light condition, could construct a final point cloud with accentuated color dissimilarities. In this paper, a methodology to uniform the different data sets, to improve the chromatic quality and to highlight further details by balancing the point color will be presented.

Keywords : color models, cultural heritage, laser scanner, photogrammetry

Conference Title : ICDH 2016 : International Conference on Digital Heritage

Conference Location : London, United Kingdom

Conference Dates : November 24-25, 2016