Accuracy Analysis of 3D Modeling Software for Image Captured by Unmanned Aerial Vehicle

I-wen Hsu and Jee-Cheng Wu*

Department of Civil Engineering, National Ilan University, Yi-lan county, Taiwan, Republic of China

Abstract: Recently, unmanned aerial vehicles (UAVs) are wildly used in the field of aerial photogrammetry. For a photogrammatic application, it is important to select a suitable software in order to build a reliability of the digital 3D models that are created from images from UAV. In this research we focused on comparison of three software solutions for processing UAV images and analysis of their influence on the quality of the 3D models. Two test sits, river side and landslide areas are chosen, and three software packages, Pix4D mapper, Agisoft PhotoScan and Context Capture are used in this comparison. The accuracy of each of the software packages was compared by quantifying the error in the control points and check points between the model and the field survey. The result shows that different software has its advantages and disadvantages depend on applications.

Keywords: unmanned aerial vehicles (UAVs), photogrammaty, 3D models

*Corresponding author, wujc@niu.edu.tw