TAPEnADe

Tools and Acquisition Protocols for Enhancing Artifacts Documentation

Case Study: Maya bass-relief, Copan (Honduras)

The Jaguar bass-relief (roughly 3×2 m), located in the East Court of the May archaeological area in Copan (Honduras) was surveyed using a Kodak DCS-Pro calibrated camera (13 Mpx, pixel size 8 mcron, 35 mm lens) and 8 images.

Fig.1: The photographic acquisition

The images were processed with the TAPEnADE tools in ca 1.5 hours, producing the shown camera poses and colorized point cloud:
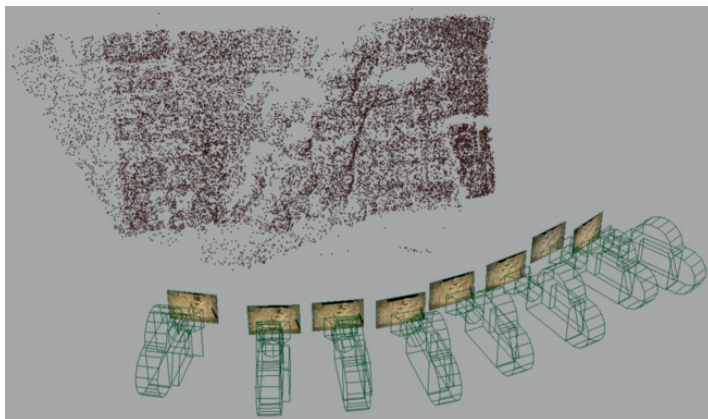

Fig.2: The results of Apero (orientation and poses of the cameras) and MicMac (3D point cloud).

The derived point cloud was compared with a range-based point cloud obtained with a Leica Scanstation2 (position accuracy ±6 mm and distance accuracy ±4 mm at 50 m, in terms of 1σ). The geometric comparison presents a final difference between the photogrammetric and the laser scanner model of 5 mm.
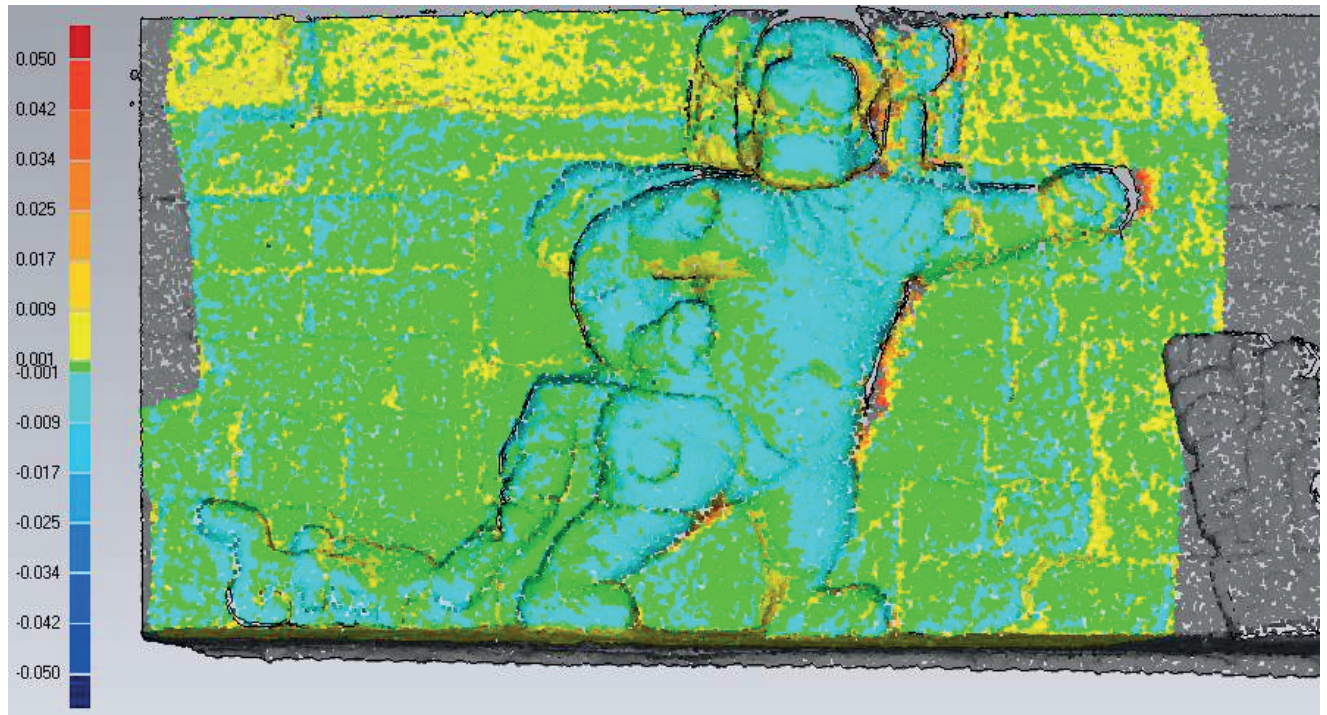

Fig.3: Geometric comparison with ground-truth data (std = ca 5 mm).