Doctoral Thesis (set): Comprehensive photogrammetric solutions for archaeological documentation of rock art

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Abstract: Documentation of cultural heritage presents different aspects, historical, architectural, archaeological, metric, structural, chemical, etc. Terrestrial photogrammetry using image-based and range-based (terrestrial laser scanning) are usually two solutions usually required to document the archaeological heritage. In the field of prehistoric rock art archaeology, we usually find paintings and/or engravings.
There are different alternatives to address complex surveys. The first option is image-based photogrammetry and laser scanning as complement. The second is the laser scanning and image-based photogrammetry as supplement in specific areas. And the third option is the integration of both solutions. In large-scale surveys, additional alternatives are used to capture geospatial information such as aerial means based on aerial photogrammetry or LiDAR. Likewise, the traditional archaeological documentation based on digital tracings must also be integrated into the final photogrammetric solution.
This thesis dissertation aims at reviewing scientifically the most advanced photogrammetric alternatives to ensure high quality archaeological documentation on rock art that allows the faithful and effective documentation in 3D/4D of the rich variety of art present in shelters or caves at maximum resolution.

Available Means: The means used are primarily high-resolution digital cameras and laser scanners of the Department. Ing. Cartographic, Geodesy and Photogrammetry. The software used is available in commercial and own photogrammetry GIFLE Seminary.

References:

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