



Doctoral Thesis (set): Improvement of the documentation and interpretation of the Levantine rock art motifs by means of multispectral analysis.

PhD Student:

Supervisor/s: José Luis Lerma García

Abstract: Rock art paintings are considered a cultural asset. In particular, the Rock Art of the Iberian Mediterranean arc was declared World Heritage by UNESCO in 1998, hence it is very important their documentation and conservation. Environmental factors and location in open areas affect (in many cases) their conservation.

The new non-invasive methods of rock art documentation are focus on the digital image analysis. It is possible to find many articles carry out research with digital images of the visible spectral region using image analysis techniques but not many studies using digital images of other regions of the electromagnetic spectrum to carry out multispectral image analysis of rock art paintings. Some of the studies show that it is possible to obtain more information about the paintings expanding the spectral range studied in an objective and non-invasive way.

The purpose of the proposed doctoral study is in line with an in-deep documentation and analysis of rock art paintings by means of image analysis of the ultraviolet, visible and infrared spectral regions. The aim is to study in a correct way how to take pictures in each of the spectral regions to study and analyze the images acquired by means of digital image processing algorithms. Furthermore the aim is to study the relationship between the spectral response of the rock art paintings with the digital values obtained in the images, i.e. the relationship between the chemical composition of the rock art paintings with the multispectral images, trying to establish an optimum methodology for the analysis of such paintings.

Available Means: For the research, equipment from the Photogrammetric Lab. will be used such as wide range camera, blocking filters, accessories of the photographic equipment, computer, etc.

References:

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