

Spectral and colorimetric measures in cultural Heritage: Altamira and El Castillos caves, Pórtico of Glory and Picasso paints.

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Color shift has been used since long time ago as an evident symptom about conservation status of cultural heritage. Nowadays there are advanced techniques which make possible to measure it with high resolution and accuracy. In cultural heritage spectral reflectance is an important parameter in order to evaluate the conservation status and process. It can overcome limitations of digital photography which are mainly limited from view conditions and to the use of a specific device. For example, it can be useful for pigment identification, mainly when the database of more frequently used pigments is known. This information is used for physical characterization, forensic, lighting proposes or others. Spectral reflectance combined with other technics can give information about subsurfaces microstructures. Even in areas where the Color to naked eye is similar, the spectral curves can be different since there metameric effects can be found. Spectral reflectance will give to the lighting designer essential information about how the visible radiation will damage the work of art but also about how it will be perceived. In this presentation we will show how several important art works have been measured and how this information has been processed. This analysis work goes from rock art in Palaeolithic caves, polychromatic middle ages sculpture to modern paints. Each one of these work has required a specific work system.