12:00

9th Jan 2025

Sala de Grados

Edificio I+D

Spectral Imaging Systems in Art Paintings: An Overview

Prof. Paulo T. Fiadeiro

Universidade da Beira Interior

Fiber Materials and Environmental Technologies - FibEnTech

Spectral imaging of art paintings has been carried out using multi and hyperspectral systems with spectral filters mounted in front of the imaging device. This type of configuration exposes the painting to light not used by the imaging device and it is not suitable for large paintings when high resolution is required. The purpose of this work was the development, and the spectral characterization of a hyperspectral system provided with an electronically fast- tunable liquid-crystal filter, mounted in front of the light source, and with an automatic XY motorized table for accurate spatial scanning of large paintings. Thus, the spectral reflectance of each pixel in the registered image can be estimated. The quality of the spectral recovery was quantified by comparing the spectral reflectance estimated with the hyperspectral system with that measured with a telespectroradiometer. These data suggest that the described hyperspectral system can record spectral and colorimetric information from artistic oil paintings with high accuracy.

INMA Instituto de Nanociencia y Materiales de Aragón · CSIC Consejo Superior de Investigaciones Científicas · Universidad Zaragoza 1542 · Excelencia Severo Ochoa · Ministerio de Ciencia, Innovación y Universidades · Agencia Estatal de Investigación