

Pigment Mapping of The Scream (1893) Based on Hyperspectral Imaging

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Abstract. Hyperspectral imaging is a promising non-invasive method for applications in conservation of painting. With its ability to capture both spatial and spectral information which relates to physical characteristics of materials, the identification of pigments and its spatial distribution across the painting is now possible. In this work, The Scream (1893) by Edvard Munch is acquired using a hyperspectral scanner and the pigment mapping of its constituent pigments are carried out. Two spectral image classification methods, i.e. Spectral Angle Mapper (SAM) and Spectral Correlation Mapper (SCM), and a fully constrained spectral unmixing algorithm combined with linear mixing model are employed for the pigment mapping of the painting.

Keywords: Hyperspectral imaging, pigment mapping.