



METADATA

Title: Non-destructive testing application methodologies and approach on the painting technique on cultural heritage artifacts

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Abstract

Non-destructive techniques constitute an integrated methodology for the diagnosis and classification of wear and tear, as well as for investigating the compatibility of materials in the conservation and restoration processes of cultural artworks. In the first chapter, an extensive reference is made to the nature and properties of the widely used pigments-pigments, as well as the manufacturing techniques used from antiquity, the Middle Ages and modern painting. The methods applied to the non-destructive characterization of materials are Fiber Optics Spectroscopy (UV-Vis-NIR), X-ray Fluorescence (XRF), ATR-FTIR spectroscopy, Raman spectroscopy, Digital Microscopy (DM), Scanning Electron Microscopy (SEM-EDX). In the second chapter, the non-destructive methods

and techniques used in the study of cultural objects and monuments are listed. In the third chapter, the application of combined non-destructive methodology in case studies for the identification of pigments in historical frescoes, statues and figurines of Mycenaean and Cycladic art is presented. In this fourth chapter, the Medieval burial monument of the Prince of France Philippe Dagobert with traces of polychrome is studied. In the fifth chapter, the on-site examination of selected frescoes of the Daphni Monastery is described. In the sixth chapter, the methodology of non-destructive determination and identification of the pigments and the technique of applying them to the paintings of the popular painter Theofilos Hatzimichael is presented.

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