

Title: Technical photography: a low cost technique for the examination of decorated surfaces

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The documentation of a polychrome surface must start with a close examination in visible and ultraviolet light. Specific phenomena and specific portions can be documented with a simple low cost technique which has been called 'technical photography'. Technical photography consists of recording a set of images with a commercial digital photographic camera which has been modified by removing the thermal filter regularly positioned in front of the CCD. In this way it is possible to record images of reflected visible light (Vis), reflected infrared light (IRr) and reflected ultraviolet light (UVr). As described by Aldrovandi (in Aldrovandi et al 2005) the reflected infrared and ultraviolet are single channel photographs and combined with some of the channels of the image of the reflected visible light provide the so-called false color images: Infrared false color (IRfc) and ultraviolet false color (UVfc). This set of images provides information about the optical behavior of the surface when reached by the different type of light and therefore provides information on the presence of different materials. Thanks to filters that block or allow the passage of a specific light region, it is possible to easily carry out this type of documentation which enhances enormously the information that can be obtained in a non_invasive manner, i.e. without taking material samples. The image of the UV-induced fluorescence provides clues about the presence of organic binders used in the paint, such as oil, while the color false color can allow to distinguish colors that are similar in visible light but that have a very different reflective and absorbent power in IR light.

Technical photography is fundamental for the development of a strategy for sampling, to ensure that representative significant areas are collected for analytical investigations. It is low-cost and relatively simple and therefore it can be used by conservators-restorers as a routing tool to improve their understanding of the decoration to be protected.

In this presentation a number of case studies will be illustrated to show the potential of this low-cost technique that is available to conservators and that should be always part of the recording process.

A. Aldrovandi, E. Buzzegoli, A. Keller, D. Kunzelman: "Investigation of painted surfaces with a reflected UV false color technique" art'05 – 8th International Conference on "Non Destructive Investigations and Micronalysis for the Diagnostics and Conservation of the Cultural and Environmental Heritage." Lecce (Italy), May 15th – 19th, 2005.

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