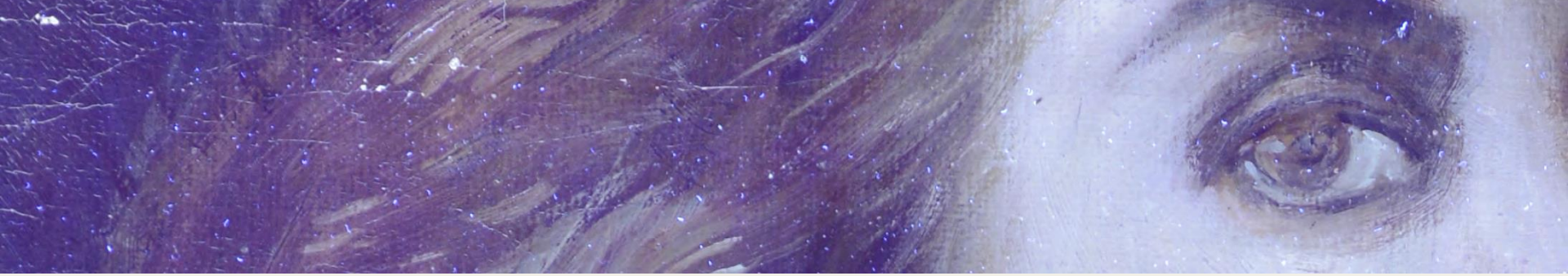

Ultraviolet Fluorescence and Reflected Ultraviolet Imaging

Visible fluorescence induced by UV radiation is a non-invasive technique that allows the state of conservation of an artefact (i.e. identify, localize and evaluate the presence and extent of earlier interventions and retouching) to be studied, as well as its structure and components, such as pigments and inks. When the surface of an artwork is irradiated by UV radiation, the uppermost layers absorb it and emit a characteristic visible radiation fluorescence. Both intensity and colour of the visible fluorescence depend on the chemical composition and application of the material. UV fluorescence is considered a preliminary investigation technique, since it excludes the non-original parts of the artefact from further analyses. Reflected UV photography is a complementary technique which involves photographing the UV radiation reflected from the surface. Its application, although quite limited, is particularly useful in studying the surface roughness of paper and parchment.