Visible Light Reflectance Spectroscopy (VIS-RS) and Colorimetry

The reflectance spectrophotometer measures the intensity of reflected radiation for each wavelength in the visible range. The final result is a curve representing reflectance versus wavelength, which is characteristic of the examined surface and depends on its optical properties. The technique is accurate, non-invasive and applicable in situ. VIS-RS spectrophotometry is used to investigate materials subjected to treatments and interventions that can induce chromatic alterations, or examine artefacts that are subject to discoloration resulting from degradation, to measure the damage and monitor the rate at which it progresses. The reflectance spectrophotometer also has applications in the field of colour measurement (colorimetry): starting from the reflectance curve, it is possible to obtain unique values to define the surface colour of the material, and consequently provide an objective documentation of the colour of different types of artefact.