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BOOK OF ABSTRACTS

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P-47. Multi-analytical study on the frescoes of Kurilo Monastery "St. Ivan Rilski", Bulgaria

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This contribution describes the results obtained from the characterisation of paint samples from Kurilo Monastery "St. Ivan Rilski", Bulgaria. The Kurilo Monastery is a part of the Sofia Sveta Gora complex of cloisters, founded in the 10th century. It was destroyed in the 14th century, but it was rebuilt by monks and painted in 1596 by the famous artist and writer Pimen Zograf. The only thing left from the old monastery to this day is the single-nave double-apsed church with two narthexes. Pimen Zografski's frescoes urgently need restoration.
Fourier Transform Infrared Spectroscopy (FTIR), Raman Spectroscopy (RS), Scanning Electron Microscopy coupled with Energy Dispersive X–ray Spectroscopy (SEM-EDS) and X-Ray Powder Diffraction (XRD) were used for the inorganic content determination. Organic materials in the paint samples were analyzed based on Attenuated Total Reflectance (ATR) IR spectra. A spectral database of paint materials was built and used to enable fast and reliable identification of the pigments and binders used by the local artists.
Via these complementary techniques and by the help of the spectral database, we were able to identify the mineral pigments and organic binders in the paint samples. Green earths containing celadonite and goethite were used as green pigments. Red colored paint samples showed cinnabar and red ochre content. Calcite and gypsum were also present in the paint samples. Extraction by various organic solvents and ATR-IR spectral analysis enabled the identification of resin in the golden colored samples.
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P-48. Characterization of wall painting materials from Rila Monastery (Bulgaria) by Raman and ATR-FTIR Spectroscopy

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