Special Issue

New Advances in Macro X-ray Fluorescence Applications

Message from the Guest Editor

The most common application of macro-X-ray fluorescence imaging is on Cultural Heritage artifacts. The first application was on a painting in 2008 using a synchrotron radiation source. Today, commercial and state-of-the-art portable XRF spectrometers can perform macro-XRF imaging in a continuous mode on large surfaces. The technique is frequently used for the characterization of pigments on paintings, scrolls, works on paper, and more recently on ancient wall paintings polychromies. Moreover, MA-XRF imaging has succeeded in many cases in re-visualizing an overpainted image or revealing iconographic elements that are either invisible to the naked eye or illegible due to their bad state of conservation. The distribution of metals inside the biological samples, although exceptionally low, is of high importance in chemical, biochemical, and pharmaceutical studies. The application of synchrotron radiation macro-XRF imaging has proven to be an asset due to the high spectral brightness, which is many orders of magnitude higher than any X-ray source...

Guest Editor

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Message from the Editor-in-Chief

Quantum Beam Science focuses on application of quantum beams for the study and characterization of materials in their widest sense, and developments of quantum beam sources, instrumentation and facilities. Quantum beams include synchrotron radiation, neutron beams, electrons, lasers, muons, positrons, ions. The journal covers disciplines including, solid state physics, chemistry, crystallography, materials science, biology, geology, earth- and planetary materials, and engineering. Articles presenting multiple quantum beams for complementary studies are welcome.

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