

XG LAB

X and Gamma Ray Electronics

ELIO mapping

The only portable XRF
scanning system



ELIO mapping - portable XRF scanning system

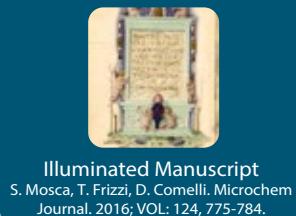
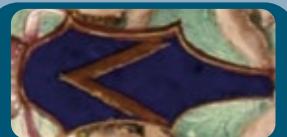
ELIO mapping system allows on-site XRF mapping

ELIO, the portable XRF spectrometer

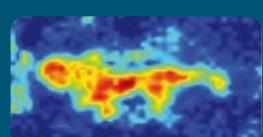
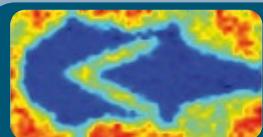
ELIO is an extremely portable and non-contact XRF spectrometer characterized by a 1mm spot size, excellent energy resolution, powerful X-ray tube, integrated videocamera and laser-based alignment system.

Mapping system

With the addition of the mapping option, ELIO becomes the industry's only truly portable mapping system. The analysis head and mapping substructure remains light and compact, weighing only 3.3 kg, such that maps of up to 10cm X 10cm can be done using the standard ELIO tripod. ELIO's 1 mm spot size enables the acquisition of high resolution maps with a level of detail consistent with the feature size of many works of art and historical documents.



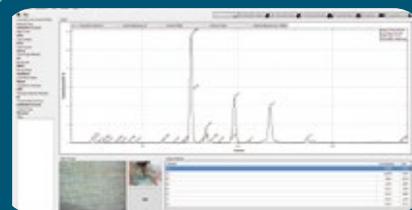
Illuminated Manuscript
S. Mosca, T. Frizzi, D. Comelli. Microchem
Journal. 2016; VOL: 124, 775-784.



Pb-Ma (top) surface and Pb
La/Ma elaboration (bottom)
revealing underlying "lion"

The ELIO mapping system comes with plug-in Software for the acquisition and visualization of the maps. In a unique SW interface the user can choose between a spot or a map analysis.

As usual, XGLab's software is extremely easy to use. The software automatically calculates the estimated map completion time before starting the measurement.



ELIO software allows operation in both
the Mapping and Spot Analysis modes.

ELIO mapping - applications

A powerful tool for XRF mapping and spectral analysis

Extended spectral range

Maps are possible for both light and heavy elements. The software stores a picture per each pixel, allowing easy back-tracing of the information.



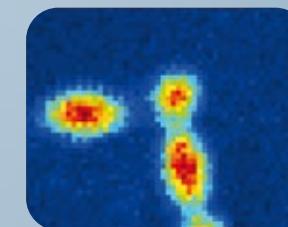
A violin, copy of a Stradivari, in the
Arvedi Laboratory, Cremona.



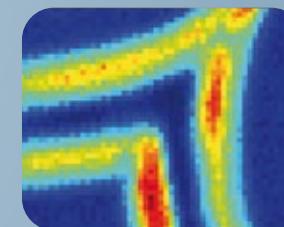
Decoration detail on the
violin.

From the map to spectral analysis

A click on the map results in full spectrum display. Thanks to the motorized stages, it is easy to point ELIO back to a specific pixel and show the picture or repeat an XRF measurement.



P-Ka XRF map: example of
a light element map.



Fe-Ka XRF map, 55px x 43px, 1s/px,
spot size 1mm, step size 0.5mm.

XRF mapping gets portable

The new ELIO mapping system sets an edge in the portability of XRF scanning instrumentation.

Check the demo video on xglab.it

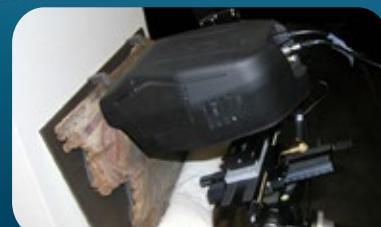


Image courtesy of the Phoebe Hearst Museum of Anthropology,
UC Berkeley, and the Center for Scientific Studies in the Arts,
Northwestern University/Art Institute of Chicago

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