

Electron Microprobe Jeol SuperProbe JXA-8230



Technical description:

The JEOL SuperProbe 8230 electron microprobe equipped with:

- 5 wavelength X-Ray spectrometers (WDS) equipped with 12 diffracting crystals (LIF, LIFL, LIFH, TAP, TAPH, PETL, PETH, PETJ, LDE1, LDE2, LDE3);
- Energy-dispersive X-ray spectrometer (EDS);
- Reflected light microscope;
- Transmitted light microscope;
- Cathodoluminescence detector;

The laboratory is equipped with a QUORUM Q150TE turbomolecular pumped coater adapted to coal sputtering.

Trade name: Electron Microprobe Jeol SuperProbe JXA-8230

More details: </equipment/mikrosonda-elektronowa-jeol-superprobe-jxa-8230/>

Access type: External

Type of accreditation / certificate: Not applicable

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Responsible body: Department of Geology of Mineral Deposits and Mining Geology

Group / laboratory / team: Laboratory of Critical Elements AGH-KGHM

Last update date: May 27, 2023, 3:21 p.m.

Year of commissioning: 2014

IDUB research areas:

(PRA 7) Design, production, and testing of modern materials and the technologies of the future based on a multidisciplinary approach combining materials engineering with chemistry, physics, mathematics, and medicine

Research capabilities:

An electron microprobe has broad applications of imaging in the microfield, compositional spot analysis as well as mapping of the distribution of elements in minerals and inorganic synthetic substances. Chemical analysis is conducted in a micro-area, typically with a spot diameter from <1 to 5 μm of a beam focused on a polished sample. An electron microprobe allows to constrain chemical composition of any substance in the solid state.

Measurement capabilities:

Samples used in electron microprobe analysis are embedded in a rounded, polished epoxy mount with a diameter of approximately 25 mm (1 inch) or a microscopic thin section with dimensions of approximately 46 mm \times 27 mm. The electron microprobe enables to perform quantitative analyses of major and trace elements (from 4Be to 92U, excluding noble gases) and chemical mapping of the distribution of elements using EDS and WDS techniques supported by the cathodoluminescence technique.

Conditions for providing infrastructure:

On the basis of contracts and orders with the consent of the head of laboratory