

Geological and related applications on the EPMA (Electronprobe Microanalyzer)

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A wide variety of materials, geological and related, have been received from research groups and the industry, for analysis with the EPMA (electronprobe microanalyzer), at the Geology Department, University of Malaya.

The EPMA at the Geology Department, University of Malaya, is a fully automated multi-tasking system with full integration of 4 WDS spectrometers with 12 analysing crystals and an EDS spectrometer for analyses and X-ray mapping of most elements in the Periodic Table down to Be.

The EPMA is able to give precise analysis of spots less than 10 microns and through X-ray maps show the distribution of elements in materials like circuit boards, concrete, steel, circuit breakers, air-filters, doorknob, discs, needles, circuit contacts, terminals, gold grains, mineral grains, paints, clays, new material coatings, contaminants and others.

Software is available to assign different colours to different elements while their intensities can be varied to enhance specific concentration related to certain minerals or features.

Equipped with an idea of the mineral composition and elemental distribution, decisions can then be made with confidence on steps to undertake to rectify the problems or improve the standard and quality of materials used.
