CAMECA EPMA Expertise, now with Field Emission Source.

SXFiveFE for quantitative microanalysis and X-Ray imaging at the highest possible spatial resolution.

The SXFive is CAMECA’s fifth generation Electron Probe Microanalyser, bringing together all the best features from the previous generation, plus reliability improvements from our automated EPMA for the semiconductor industry, control systems from our SIMS product line, a novel Field Emission source and redesigned electron column.

Our new EPMA platform is available in two configurations:
• SXFive with W and LaB₆ sources,
• SXFiveFE with FE source.

Resolution
Sensitivity
Quantification

Clinopyroxene lamellae of few hundreds of nanometers.

Exsolution lamellae of clinopyroxene in orthopyroxene, both phases analyzed by SXFiveFE with a fully focused spot.
New features:

- Field Emission source and electron optics
- Optimized vacuum system
- Enhanced automation
- Annular Faraday Cup

The SXFiveFE integrates mature technologies from CAMECA's SIMS and other EPMA product lines, with the latest developments in general purpose EPMA.

The SXFiveFE provides:

- Quantitative analysis at submicron scale
- High quality minor and trace element analysis
- Mapping at high spatial resolution
- Highest precision spectrometers for greatest reproducibility
- Full automation for long-term unattended analysis

Light element analysis and mapping at high spatial resolution

Interdiffusion of elements during the heat release between a nickel-based braze and a substrate of nickel-based superalloy.


X-Ray imaging at sub-micron scale

Cr and Al distribution among gamma-gamma' phases in Ni-based superalloy.

Sample courtesy of Dr.-Ing. I. Lopez-Galilea, Lehrstuhl Werkstofftechnik, Ruhr-Universität Bochum.