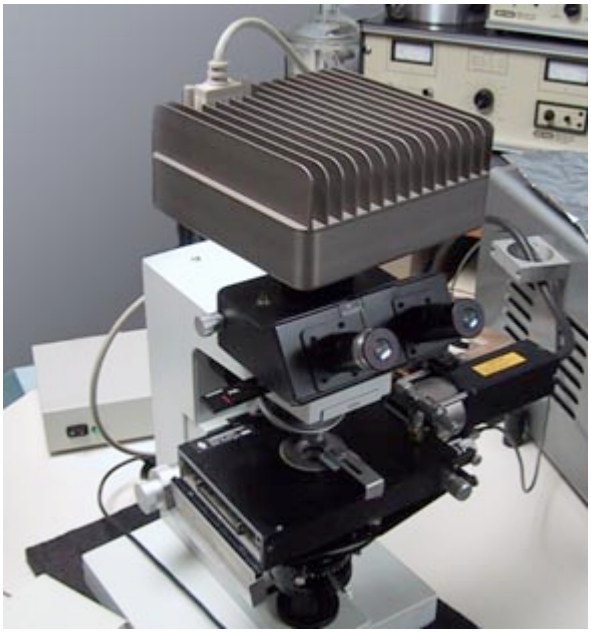
RELIOTRON-based Cathodoluminescence



EOS Cathodoluminescence System

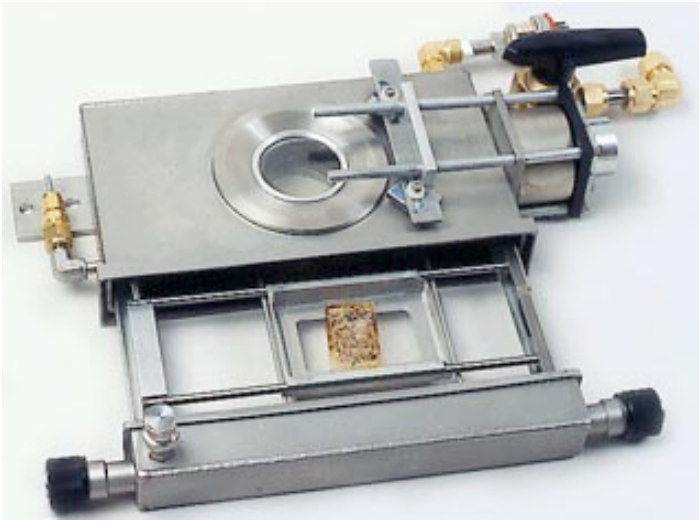
The EOS CL System is a completely integrated optical, digital imaging, fluorescence spectrometer and image analysis/processing package based on a Zeiss Petrographic microscope.

By using the already-proven and widely recognized RELIOTRON chamber/gun/electronic control, this integration allows high resolution CL digital imaging, spectral analysis, and image analysis. Spectral data can be output to Excel, or overlaid from a previous acquisition for direct comparison.

EOS integrators cover the complete system.

Light & Electron Optical Chamber Interface

The vacuum sample holder combines cathodoluminescence observation through a lead glass window with the highest optical efficiency. Microscope objectives can be rotated on the lens turret without moving the chamber. The new electron gun cold cathode source, with a high concentration focus lens coil, provides an ultra stable plasma electron beam focused on the sample.



RELIOTRON Specimen Stage

The CL sample stage is fitted in place of the normal microscope stage. The standard stage has complete field of viewing for a sample up to 70mm x 50mm. X & Y external controls are used to position the specimen.

Vacuum System

The working vacuum for the cold cathode gun is 20 to 100 milli-torr. This pressure is established with a two-stage mechanical rotary pump.

Specifications

Stage Standard:

- Slide Drawer for sample load and change
- Concentric X & Y sample position control
- Full view for 70mm x 50mm slides

Sample Chamber:

- A base window for transmitted light microscopy (TrL)
- Automatic air vent.
- Precision needle gas flow valve
- Hastings pressure gauge
- Chamber cold cathode electron gun assembly
- Industry standard connection for vacuum rotary pump.

Electronics Console:

- 1-30KV – to 2 mA
- Current stabilized
- Pre-selected gun voltage
- All vacuum interlocked
- Gun overload cut out protection

EOS Spectrometer

Using a fiber optic interface, and a spectrometer with UV rejecting, high reflectivity, Ag-coated mirrors, provides an enhanced signal from 380-1050 nm.

EOS control software enables spectral capture data output to Excel format.

The graphical overlay history can be stored and used for comparison to live acquisitions.