Cathodoluminescence of sphalerite from some Japanese ores: a preliminary study

Kazuyasu Shindo[1]; Kosei Komuro[2]; Ken-ichiro Hayashi[3]

[1] Earth Evolution Sciences, Univ. Tsukuba; [2] Life Environment. Sci., Univ. Tsukuba; [3] Graduate School of Life and Environmantal Sci., Univ. Tsukuba

Sphalerite is a common mineral in ore deposits and has wide variety of color, cathodoluminescence (CL), chemical compositions and inclusions, which can be used to estimate formative processes and environment of the ore deposits. Chalcopyrite inclusions in sphalerite called chalcopyrite disease in the Kuroko deposits are considered to be the key evidence for later alteration of sphalerite ores by copper-rich fluids. CL color variation in Mississippi Valley type ores have been investigated to correlate stratigraphically the formative stages of ores over few kilometers. In the present study, sphalerite ores from some Japanese magmatic-hydrothermal deposits are examined systematically by optical and CL observations with microprobe analysis. The mutual relationships will be discussed.