

CL emission mechanism of calcite type carbonates

Masaru Ikenaga[1], Hirotugu Nishido[2], Kiyotaka Ninagawa[3], Nobuhiko Yamashita[4]

[1] Fac. Sci., Okayama Univ. Sci., [2] Res. Inst. Nat. Sci., Okayama Univ. Sci., [3] Applied Phys. Okayama Univ. of Science, [4] Okayama Univ.

CL spectra of calcite type carbonates activated by Mn^{2+} show similar spectral patterns, but change in peak wave-length from 610-660nm. It can be presumed that the influence of the crystal field in different host crystals may alter the magnitude of the energy levels of d-shell for Mn^{2+} . Mn concentration more than 8000-10000ppm exhibits the effect of the CL quenching. It is thought that the transition energy of the activator could be used for the non-radiation transition, such as cross relaxation and energy transmission. The PC simulation supports such concentration quenching.