

Intensity ratios and satellite structure of Chlorine K-shell x-rays induced by photons

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The photon induced K shell x-ray intensity ratios and the satellite spectra of chlorine are investigated. Unlike conventional use of crystal spectrometers, the satellite x-ray structure is observed using energy dispersive spectrometer with high resolution silicon drift detector and x-ray tube as photon source. The energy shift of chlorine KL1 line from the KL0 position is also measured and found to be ~21 eV, which is in close agreement with the theoretical value as reported with ion induced x-ray satellite measurement experiments. The $K\alpha/K\beta$ X-ray intensity ratios of Chlorine are also investigated for three compounds of chlorine namely NaCl, NiCl₂ and FeCl₃. The variation in x-ray spectra peak structure is observed for these compounds.

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