

Investigation of K Shell Oscillator Strengths and Related Parameters for Sb and Ce

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Abstract:

Mass absorption coefficients, attenuation cross sections and photoelectric cross sections around the K edge, K shell photoelectric cross sections, K shell absorption jump ratios, K shell absorption jump factors, K shell absorption edge energies and K shell oscillator strengths for Sb and Ce have been experimentally determined using the X-ray attenuation technique. In the measurements, some elements in the atomic range $44 \leq Z \leq 68$ have been excited using photons of 59,54 keV emitted from Am-241 annular source. The characteristic K X rays emitted from the elements counted with a Si(Li) detector having 4 mm active diameter and full width at half maximum (FWHM) of 160 eV at 5,9 keV. The experimental values were compared with the theoretically calculated values and other experimental and theoretical values in the literature. The present results are generally in a good agreement with theoretical calculations and the other results obtained in the literature, within their range considering experimental uncertainty.