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The Study of $5s^25p^3$- $5s5p^4$ Transitions in Sb-Like Cerium Ion: Ce VIII ABDUL WAJID, S. JABEEN, Aligarh Muslim University — Seven-times ionized cerium ion has Sb I-like structure, and $5s^25p^3\ {}^4S_{3/2}$ as the ground state. The $5s^25p^3$- $5s5p^4$ transitions transition array was studied using observed cerium spectrum. This spectrum was recorded on a 3-m normal incidence vacuum spectrograph at Antigonish lab (Canada). In this study all the energy levels of the ground configuration was established using the Visual Line-and-Level Identification Program (IDEN2). This analysis was theoretically supported by relativistic (multiconfiguration Dirac-Hartree-Fock) and pseudo relativistic (Hartree-Fock with relativistic correction) method followed by configuration interaction. Along with the energy levels, transition probabilities, oscillator strength and lifetimes were also calculated. The observed levels then optimized with the computer code LOPT.

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