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Electron-photon coincidence experiments on zinc atoms MARIUSZ PIWINSKI, LUKASZ KLOSOWSKI, DAREK DZICZEK, STANISLAW CHWIROT, Institute of Physics, Nicolaus Copernicus University — Atoms with two valence electrons outside relatively inert cores i.e. alkaline earths elements and associated group of atoms like Zn, Cd, Hg and Cn are challenging for both theoretical and experimental investigations of electronic collisions. Electron – photon coincidence experiments are well known for providing more detailed information about atomic scattering than any other technique and have stimulated studies of increasingly complex collision systems. We present experimental values of the electron impact coherence parameters (EICP) and Stokes parameters for excitation of 4^1P_1 state of zinc atoms. The results have been obtained using electron – photon coincidence technique for incident electron energy 100 eV and electron scattering angles in the range of 5° to 25° . Our results are the first set of quantum-mechanically complete experimental data for zinc atoms.

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