COLLISIONAL DEPOLARIZATION OF ZEEMAN COHERENCES IN THE ^{133}Cs $6p^2P_{3/2}$ LEVEL WITH ARGON MOLECULES: TWO-PHOTON POLARIZATION SPECTROSCOPY

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An experimental investigation of the Cs $6s^2S_{1/2} \rightarrow 6p^2P_{3/2} \rightarrow 10s^2S_{1/2}$ double resonance two-photon polarization spectrum has been made. In the investigation, a linear polarization degree was measured to extract the alignment depolarization cross section in the cesium $6p^2P_{3/2}$ level due to collisions between ground-level argon and excited $6p^2P_{3/2}$ cesium atoms over the Zeeman coherences. The spectra show strong depolarization of the Cs $6p^2P_{3/2}$ level. The measured alignment depolarization cross section value of 186 (58)$\AA^2$ is in good agreement with experiment and theoretical predictions.

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