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**Cross sections with magnetic sublevels of He-like ions for polarized x-ray spectroscopy** T. KAI, ILE, Osaka U., T. KAWAMURA, Tokyo Inst. Tech., S. NAKAZAKI, Univ. Miyazaki, Y. INUBUSHI, H. NISHIMURA, Y. OKANO, T. NAKAMURA, T. JOHZAKI, H. NAGATOMO, S. FUJIOKA, K. MIMA, ILE, Osaka U. — In fast-ignition plasma, energy transport in dense plasma is one of the critical issues. The fast-ignition plasma emits polarized x-rays since the VDF of generated fast electron is anisotropic VDF. Spectroscopy of polarized x-ray is a useful diagnostics for studying the VDF of fast electrons. The time- dependent collisional-radiative atomic kinetics model was developed to analyze the experimental results of polarized Cl-He $\alpha$ line [1]. To examine the model calculation, the cross sections with magnetic sublevels of He-like Cl and Cu ions were calculated [2]. The calculated cross sections with magnetic sublevels for He-like ions will be discussed for polarized x- ray spectroscopy in the ultrahigh-intense laser ($10^{17}$ $10^{20}$ W/cm$^2$).
[1] T. Kai, et al., HEDP 3, 131 (2007); T. Kawamura et al., submitted.
[2] T. Kai, et al., PRA 75, 012703 (2007). ibit, 75, 062710 (2007).

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