On resonance transmission and total reflection for scattering electrons on protons in a homogeneous magnetic field

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Application of the adiabatic method for solving the boundary problem for discrete and continuous spectrum of a hydrogen-like atom in a homogeneous magnetic field is presented. Basing on it the estimation of the photoionization cross-section and laser-induced recombination rate is carried out. Effects of resonance transmission and total reflection of oppositely charged particles in a homogeneous magnetic field are demonstrated[1].

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[1] O. Chuluunbaatar *et al.*, J. Phys. A **40**, 11485 (2007).