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Positron scattering on highly excited antihydrogen atom in strong magnetic field D. VRINCEANU, Los Alamos National Laboratory, T. POHL, H.R. SADEGHPOUR, ITAMP, Harvard-Smithsonian Center for Astrophysics — Classical Trajectory Monte Carlo simulation technique is employed to study the collision of a positron on highly excited antihydrogen atom in conditions similar to Penning trap experiments. The main difficulty is generating a distribution of initial conditions which describes accurately an atom of given energy and angular momentum projection in strong magnetic field. The quality of the non-perturbative ensemble proposed here is verified by calculating, and comparing, various average quantities in both classical and quantum mechanical ways. The results for energy and angular momentum transfer are presented for a wide range of positron projectile energies.

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