Ionization and excitation in collisions between antiprotons and hydrogen atoms

THOMAS WINTER, Pennsylvania State University — Coupled-state cross sections have been determined for ionization and excitation in intermediate (keV)-energy collisions between antiprotons and hydrogen atoms using some of the same double-center Sturmian bases as were recently used for proton projectiles. The use of a double-center basis for antiproton projectiles, in spite of there being no capture channels, was suggested and carried out by Toshima with a large Gaussian basis. The present results for ionization will be compared with the double-center results of Toshima and the single-center results of Igarashi et al. and McGovern et al., and the cross sections for excitation of individual states up to 3d will be compared to the numerical results of Sakimoto.