

Abstract Submitted
for the DAMOP07 Meeting of
The American Physical Society

Inelastic Transitions in Slow Collisions of Anti-Hydrogen with Hydrogen Atoms¹ ROBERT HARRISON, PREDRAG KRSTIC, Oak Ridge National Laboratory — We calculate excited adiabatic states and nonadiabatic coupling matrix elements of a quasimolecular system containing hydrogen and anti-hydrogen atoms, for a range of internuclear distances from 0.2 to 20 Bohrs. High accuracy is achieved by exact diagonalization of the molecular Hamiltonian in a large Gaussian basis. Nonadiabatic dynamics was calculated by solving MOCC equations. Positronium states are included in the consideration.

¹We acknowledge support of the U.S. DoE under contract No. DE-AC05-00OR22725 with UT-Battelle, LLC.

Predrag Krstic
Physics Division, Oak Ridge National Laboratory

Date submitted: 03 Feb 2007

Electronic form version 1.4