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Lattice method approach to $\bar{p}p$ formation in $\bar{p}$+H collisions: Inclusion of classical trajectories[1] R. CABRERA-TRUJILLO, Department of Physics, University of Florida, Gainesville, FL 32611, B. D. ESRY, J. R. Macdonald Laboratory, Department of Physics, Kansas State University, Manhattan, KS 66506 — In this work, we present calculations of protonium formation using a lattice approach for the electronic wavefunction and a classical treatment for the nuclear degrees of freedom. We implement our model in the laboratory reference frame as well as in the reference frame where the proton is fixed. Here the non-inertial terms are taken into account by means of a gauge transformation. We present preliminary results for the protonium formation cross section and the stopping cross section (nuclear and electronic) for low projectile energies in the few eV range.

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R. Cabrera-Trujillo
Department of Physics, University of Florida, Gainesville, FL 32611

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