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**Semiclassical treatment of $\bar{p}p$ formation in $\bar{p}$-H collisions** R. CABRERA-TRUJILLO, B.D. ESRY, J. R. Macdonald Laboratory, Department of Physics, Kansas State University, Manhattan, KS 66506 — As the energy of an antiproton colliding with a hydrogen atom decreases, the probability for formation of protonium ($\bar{p}p$) increases. In this work, we present a calculation of protonium formation using the Electron-Nuclear Dynamics (END)[1] theory for projectile energies from 1 eV to 10 eV. We present preliminary results for the protonium formation cross section, the stopping cross section (nuclear and electronic). In particular, we explore the role of non-adiabatic effects and the ionization channel within the END formalism.

[1]E. Deumens, A. Diz, R. Longo, and Y. Öhrn, Rev. Mod. Phys. **66**, 917 (1994).

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