

Abstract Submitted
for the DAMOP06 Meeting of
The American Physical Society

Ultracold three-body collisions of H with alkali atoms YUJUN WANG, J. J. HUA, J. P. D'INCAO, B. D. ESRY, Department of Physics, Kansas State University — We have calculated the ultracold three-body collision rates involving some commonly used alkali atoms. In particular, we have calculated the collision rates for spin-polarized H+H+Cs, H+H+Rb, H+H+K, H+H+Na, and H+H+Li by solving the Schrodinger equation in the adiabatic hyperspherical representation. We used realistic two-body potentials to build the three-body interactions. The calculations cover energies up to roughly 1 μ K and include all three-body processes possible for these systems: three-body recombination, collision induced dissociation, and elastic atom-molecule collisions. Supported by the National Science Foundation.

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Date submitted: 26 Jan 2006

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