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Calculation of He+H_2 cross-sections using slow variable discretization enhanced renormalized Numerov propagator method JUAN BLANDON, GREGORY PARKER, University of Oklahoma — Collisional quenching is an important process in the trapping of diatomic molecules, which has attracted interest due to recent efforts to form molecular Bose-Einstein condensates, for example. We apply the slow variable discretization enhanced renormalized Numerov method to calculate elastic and inelastic cross-sections for the He+H_2 system, using the Muchnick-Russek HeH_2 potential energy surface [1]. Such calculations are inherently technically difficult, due to the large number of H_2 bound states involved, and the large scattering energy range used in the calculations.

[1] P. Muchnick and A. Russek, J. Chem. Phys. **100**, 4336 (1994).

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