Title:	Importance of Coriolis Coupling in Isotopic Branching in (He, HD+) Collisions
Authors:	Sathyamurthy, N. (/jspui/browse?type=author&value=Sathyamurthy%2C+N.)
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Abstract:	A three-dimensional time-dependent quantum mechanical wave packet approach is used to calculate the reaction probability (PR) and integral reaction cross section values for both channels of the reaction He + HD+(v = 1; j = 0) → HeH (D)+ + D (H) over a range of translational energy (Etrans) on the McLaughlin−Thompson−Joseph−Sathyamurthy potential energy surface including the Coriolis coupling (CC) term in the Hamiltonian. The reaction probability plots as a function of translational energy for different J values exhibit several oscillations, which are characteristic of the system. The σR values obtained by including CC and not including it are nearly the same over the range of Etrans investigated for the HeD+ channel. For the HeH+ channel, on the other hand, σR values obtained from CC calculations are significantly smaller than those obtained from coupled state calculations. These results are compared with the available experimental results. The computed branching ratios (Γσ = σR (HeH+)/σR (HeD+)) are also compared with the available experimental results.
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