

Abstract Submitted  
for the DAMOP16 Meeting of  
The American Physical Society

**Dissociative recombination of  $\text{N}_2\text{H}^+$ : 1D, 2D and 3D cross sections** SAMANTHA FONSECA DOS SANTOS, Drake University/ LBNL, ASA LARSON, Stockholm University, ANN OREL, UC Davis — We have studied the low-energy indirect dissociative recombination mechanism of this system, and now we now extend those studies to higher energy where the direct dissociative recombination mechanism becomes important. We carried out electron scattering calculations using the Complex Kohn Variational Method as a function of the three internal degrees of freedom to obtain the resonance energy surfaces and autoionization widths. We then use this data as input to form the Hamiltonian relevant to the nuclear dynamics. The multidimensional wave equation is solved using the Multi-Configuration Time-Dependent Hartree (MCTDH) approach. We compute the relative dissociative electron recombination (DR) cross sections and compare to available experiment.

Samantha Fonseca dos Santos  
Drake University/ LBNL

Date submitted: 29 Jan 2016

Electronic form version 1.4