

Abstract Submitted
for the DAMOP09 Meeting of
The American Physical Society

Complete momentum spectrum of H_2^+ ionization by short laser pulses from model Born-Oppenheimer calculations¹ FATIMA ANIS, B.D. ESRY, J. R. Macdonald Laboratory, Department of Physics, Kansas State University — We have performed one dimensional Born-Oppenheimer (BO) calculations for H_2^+ ionization in intense laser pulses. Here, one dimensional implies one degree of freedom each for the electron and the internuclear distance. Our scheme allows us to clearly separate dissociation and ionization without making any further approximation within the model. The results have been analyzed to qualitatively answer several important questions about different approximations and models proposed for interpreting and predicting the Kinetic energy spectrum of the protons following ionization, in particular above threshold Coulomb explosion (ATCE).

¹Supported by the Chemical Sciences, Geosciences and Biosciences Division, Office of Basic Energy Sciences, Office of Science, U.S. Department of Energy.

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Date submitted: 26 Jan 2009

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