

Abstract Submitted
for the TSS10 Meeting of
The American Physical Society

Chaotic scattering in a molecular system ALEX BARR, KYUNG-SUN NA, LINDA REICHL, University of Texas at Austin, CHRISTOF JUNG, Universidad Nacional Autonoma de Mexico — We examine the classical scattering dynamics of a chlorine atom interacting with an HO molecule using a two-dimensional model in which the HO bond length is held fixed. The classical phase space for this system is dominated by an unusually complicated homoclinic tangle. I will show how the fractal structure of the homoclinic tangle is encoded in all scattering functions and how this fractal structure can be easily investigated by defining a “step number” for each scattering trajectory.

Alex Barr
University of Texas at Austin

Date submitted: 19 Feb 2010

Electronic form version 1.4