

Abstract Submitted  
for the DAMOP09 Meeting of  
The American Physical Society

**Deceleration of continuous molecular beams** WADE RELLERGERT,  
ERIC HUDSON, University of California - Los Angeles — A method for decelerating a continuous beam of neutral polar molecules is theoretically demonstrated. This method utilizes non-uniform, static electric fields and regions of adiabatic population transfer to generate a mechanical force that opposes the molecular beam's velocity. By coupling this method with irreversible trap-loading, molecular densities  $\geq 10^{11}$  cm<sup>-3</sup> are possible. When used in combination with forced evaporative cooling, the proposed method may represent a viable route to quantum degeneracy for a wide-class of molecular species.

Wade Rellergert  
University of California - Los Angeles

Date submitted: 26 Jan 2009

Electronic form version 1.4