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## **Dynamical Studies of Resonant Electron-Molecule Collisions**<sup>1</sup> DANIEL SLAUGHTER<sup>2</sup>, Lawrence Berkeley National Laboratory

A unique capability of low-energy electrons is to break molecular bonds through low-energy resonant processes. We report a combined experimental and theoretical study on the dynamics following dissociative electron attachment (DEA) at low collision energies that induce ring-breaking in uracil. The experiments employ a DEA reaction microscope [1], consisting of a 3D momentum-imaging negative ion spectrometer, a pulsed low-energy electron gun and an effusive gas target. Building further upon a recently-established technique [2-5], fragment ion kinetic energy and angular distributions resulting from DEA are measured and compared with ab initio scattering calculations to reveal key aspects of the dynamics of the transient anion system. Recent experiments on other related systems will also be presented.

- [1] Adaniya et al. Rev. Sci. Inst. 83 023106 (2012)
- [2] Slaughter et al. Physical Review A 87 052711 (2013)
- [3] Moradmand et al. Physical Review A 88 032703 (2013)
- [4] Haxton et al. Physical Review A 84 030701 (2011)
- [5] Adaniya et al. Physical Review Letters 103 233201 (2009)

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