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**Dynamics of Dissociative Electron Attachment to Methanol Probed By 3-Dimensional Momentum Imaging**[1] DAN SLAUGHTER, HIDEHITO ADANIYA, THORSTEN WEBER, ALI BELKACEM, Lawrence Berkeley National Laboratory — Dissociation of a stable molecule by low-energy electrons via a resonant transient negative ion species, in the dissociative electron attachment (DEA) process, plays an important role in phenomena such as atmospheric and interstellar chemistry and radiation damage in biological systems by low-energy secondary electrons. DEA is also a useful tool in materials processing and can be used to control chemical reactions through enhancement of specific dissociation pathways. We present new data on the dynamics of DEA to methanol, which we have measured using a 4pi negative ion momentum spectrometer. The data reveal that the dynamics of DEA to this fundamental polyatomic molecule can be understood in terms of a few similarities with equivalent processes involving the much better-understood water anion [Haxton et al. Phys. Rev. A 84, 030701 (2011)] suggesting the possibility of successfully extending our experimental approach to study DEA dynamics in more complex systems.

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