Imaging Multi-Body Sequential Molecular Fragmentation Dynamics and Extending Academic Skills to Industry

A colloquium sponsored by the Society of Physics Students

Travis Severt

Principal Optical Engineer at Northrop Grumman

When a molecule absorbs energy from its surrounding environment, the structure evolves, and the molecule may eventually break into its constituents. During the fragmentation of triatomic or larger molecules, the bonds may break sequentially, i.e., step-wise. Recently, we developed a new framework to systematically identify, analyze, and separate multi-body sequential fragmentation from competing processes [1,2]. In this

colloquium, I will highlight the method's strengths by following the break-up dynamics of D_2O molecules step-by-step after the absorption of a single extreme-ultraviolet photon [2]. In addition, I will highlight important skills that I gained throughout my time in academia and show how they transfer to my industry position at Northrop Grumman, where I build and design prototype LAser Detection And Ranging (LADAR) systems [3].

Friday, April 14th, 2022 4:00 PM EST in Jepson 225

Please contact SPS president Abby Swanson at <u>aswanson2@mail.umw.edu</u> with any questions! Hosted by the Department of Chemistry and Physics

Open to all who wish to attend $-\infty$



