



Ronald E. Hatcher
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Honey, I Shrunk the Plasma: Studying Astrophysical Processes in Laboratory Experiments

Dr. Clayton Myers
Princeton Plasma Physics Laboratory
Princeton, New Jersey

ABSTRACT:

For centuries, astronomers have peered out into the universe with our most powerful telescopes in search of new and exciting phenomena. While many of these phenomena are now well understood, many more remain shrouded in mystery. In this talk, I will describe a relatively new approach to studying key astrophysical phenomena: laboratory plasma astrophysics. Here, the goal is to design experiments that allow us to study astrophysical processes in a well-controlled laboratory setting. The central question is, how can we scale down the enormous plasmas of stars and galaxies without changing the physics along the way? This talk will answer this question and others in the context of experiments that study solar eruptions, magnetic reconnection, the dynamo effect, and more.

BIOGRAPHY:

Originally from the small town of Carey, Ohio, Clayton Myers earned his BS in Engineering Physics from Cornell University in 2007 and his PhD from Princeton University's Program in Plasma Physics in 2014. For his doctoral thesis, Myers modified the Magnetic Reconnection Experiment (MRX) at PPPL in order to study the physics of solar eruptions. He has recently joined the PPPL staff as a postdoctoral researcher on the National Spherical Torus Experiment Upgrade (NSTX-U).