

Brendan Carrick Lyons



Graduate Institution: Princeton University

Location: Princeton, NJ

Graduate Discipline: Plasma Physics

Hometown: Nutley, NJ

Research Interests:

Brendan is interested in theoretical and computational plasma physics with applications to fusion science. He has previously studied magnetohydrodynamic (MHD) instabilities in both astrophysical and fusion plasmas, as well as laser-plasma interactions (with applications to inertial confinement fusion) and field-reversed configuration (FRC) plasmas. He is currently performing his first-year experimental research project using high-speed cameras with infrared filters to measure the temperature of the divertor in the National Spherical Torus Experiment. In the future, he hopes to study hybrid MHD codes that combine aspects of the MHD and kinetic plasma models to produce higher physics fidelity simulations.

About me:

Brendan just completed his first year of studies in the Princeton University Program of Plasma Physics. He received his bachelor's degree in physics from Princeton University in 2009, graduating with high honors. While an undergraduate, he participated in numerous independent research projects, including two summer internships in the Princeton Physics Department, a SULI internship at the Princeton Plasma Physics Laboratory, and a study abroad internship at École Polytechnique near Paris, France. He developed a strong interest in plasma physics in the beginning of his junior year and has pursued research in this field since then. Though currently working on his experimental first-year project, he intends to return to computational and theoretical work this fall. After receiving his Ph.D., he intends to pursue a career in research at a national laboratory, with the goal of advancing the international effort to develop fusion power as an affordable energy alternative.

Brendan is an associate member of Sigma Xi and a student member of the American Physical Society. He has twice presented posters at the APS Division of Plasma Physics meeting and has won an Outstanding Undergraduate Poster Award there. He is an avid baseball and football fan. In his spare time, he bartends and plays intramural sports for the Princeton Plasma Physics Lab.



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