## Toward predictive modeling of plasma flows in low-temperature magnetized plasmas and arc discharge

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Low-temperature plasmas often refer to ionized gases where the heavy species temperature is low (in comparison to fusion-type plasmas; e.g. ~1 eV) while the electron temperature can range from a few eV to a few tens of eV. In this flow regime, nonequilibrium physics plays an important role in the development of instabilities and oscillations, e.g. self-organization. It is therefore critical to advance the predictive modeling capabilities that can capture such dynamic phenomena. In this talk, I will present recent advancements in the plasma models for low-temperature magnetized plasmas, e.g. Hall-effect thrusters, and arc discharge plasmas.
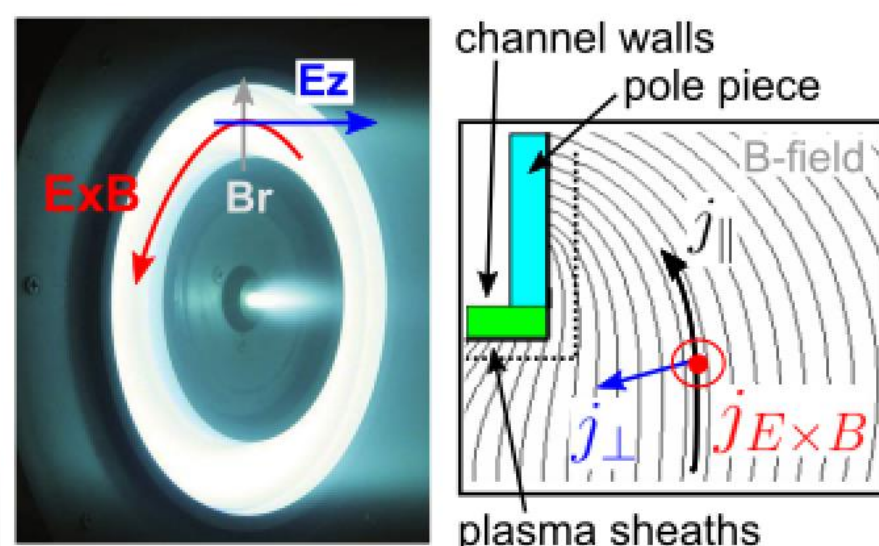
Ken Hara is an Assistant Professor of Aerospace Engineering at Texas A&M University (TAMU). He received his Ph.D. in Aerospace Engineering from the University of Michigan, and B.S. and M.Eng. in Aeronautics and Astronautics from the University of Tokyo. Prior to the current position at TAMU, he was a Visiting Research Physicist at Princeton Plasma Physics Laboratory as Japan Society for the Promotion of Science Postdoctoral Fellow. He is a recipient of the IEEE Nuclear and Plasma Sciences Society Graduate Scholarship Award (2015), the Air Force Young Investigator Program Award (2017), and the Department of Energy Early Career Award (2018).