Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Engaging high school students as plasma science outreach ambassadors[1] AMY WENDT, JOHN BOFFARD, Univ of Wisconsin - Madison — Exposure to plasma science among future scientists and engineers is haphazard. In the U.S., plasma science is rare (or absent) in mainstream high school and introductory college physics curricula. As a result, talented students may be drawn to other careers simply due to a lack of awareness of the stimulating science and wide array of fulfilling career opportunities involving plasmas. In the interest of enabling informed decisions about career options, we have initiated an outreach collaboration with the Madison West High School Rocket Club. Rocket Club members regularly exhibit their activities at public venues, including large-scale expos that draw large audiences of all ages. Building on their historical emphasis on small scale rockets with chemical motors, we worked with the group to add a new feature to their exhibit that highlights plasma-based spacecraft propulsion for interplanetary probes. This new exhibit includes a model satellite with a working (low power) plasma thruster. The participating high school students led the development process, to be described, and enthusiastically learned to articulate concepts related to plasma thruster operation and to compare the relative advantages of chemical vs. plasma/electrical propulsion systems for different scenarios.

[1]Supported by NSF Grant PHY-1617602

Amy Wendt
Univ of Wisconsin, Madison

Date submitted: 14 Jul 2017 Electronic form version 1.4