

Plasma Environment Overview

- Lead: Mike Zimmerman, PhD
 - Michael.Zimmerman@jhuapl.edu
 - Computational physicist with expertise in plasma-surface interactions and atmospheric fluid dynamics. Experienced in team-based and individual software development.
 - 2002: BS, Frostburg State Univ, Physics & Computer Science
 - 2008: MS, WVU, Laboratory plasma physics
 - 2010: PhD, WVU, Correlating tornado surface marks with near-surface winds
 - 2010-2013: NASA Postdoctoral Fellow, GSFC, Plasma interactions with the Moon
 - 2013-present: APL Senior Staff

Meeting Details

- 4th Monday of each month at 2 PM
- Typically about 20 participants
 - Joint meetings with Radiation and Regolith had >75 participants!
- Topics: space weather, plasma-surface and plasma-object interactions, photoemission properties, high-energy particle fluxes, regolith charging and electrostatic transport, magnetic field effects

Plasma Environment Past Meetings

- 28 Aug 2023
 - State-of-the-art grain-grain tribocharging model – Yun Zhang, Univ. Michigan
- 25 Sep 2023
 - EMA plasma and tribocharging numerical codes and capabilities – Tim McDonald, EMA
- 23 Oct 2023
 - NASA lunar-relevant laboratory facilities – Erin Hayward, NASA MSFC
- 22 Apr 2024 – Joint telecon with Radiation
 - Deep dielectric charging on the Moon – Andrew Jordan, UNH / Shu Lai, Boston College
- 27 Jun 2024 – Joint telecon with Regolith
 - Plasma environment near a lander – Mike Zimmerman, APL
 - Dust motion in that environment – Christine Hartzell, UMD
 - Lunar relevant dusty lab experiments – Addie Dove, UCF

Plasma Environment Upcoming Meetings

- 26 Aug 2024
 - Solar-energetic electron events (SEE) at the Moon – Joe Borovsky, Space Science Institute, Gian-Luca Delzanno, LANL
- September 2024
 - Radio propagation in near-surface plasma environment – Eray Guven, Gunes Karabulut, Polytechnique Montréal
- October 2024
 - Plasma climatology in the Earth's magnetotail -- Lucas Liuzzo, UC Berkeley
- Nov/Dec ?
 - Multiscale numerical modeling of astronaut charging on the Moon – Joseph Wang, USC, possibly Frank Han, Missouri Univ