JUSTYNA M. SOKÓŁ, Ph.D.

Sr. Research Scientist, Southwest Research Institute (SwRI); jsokol@helio.zone; http://jmsokol.helio.zone/

PHYSICIST

Physics of the outer heliosphere, solar activity modulation of the global heliosphere, dayside magnetosphere, detection techniques for low-energy particles, and calibration of space plasma instruments.
Key areas: space instrumentation, conversion surfaces, data analysis, solar activity cycle, ENAs, PUIs, ISNs, solar wind

PROFESSIONAL EXPERIENCE

Southwest Research Institute, *San Antonio, TX*
Sr. Research Scientist (2023 – present), Research Scientist (2021 – 2023)

Princeton University, *Princeton, NJ*
Visiting Fellow (2019 – 2020)

Space Research Centre Polish Academy of Sciences, *Warsaw, Poland*
Associate Researcher (2016 - 2019), Research Assistant (2013 - 2016), Specialist in Physics (2012 - 2013), Physicist (2010 - 2011)

- Individual Member of the ***International Astronomical Union***
- **17** first-author publications
- **72** co-author publications
- h-index: **35**, total citations: >3500
- **4** projects led as PI
- **13** projects as Co-I or Collaborator
- **7** invited talks
- **47** first author talks
- Convener or chairman of science sessions
- Reviewer for research papers and proposals

EDUCATION

Heliophysics Mission Design School, NASA JPL (Internship, 2022)

Ph.D., Physical Science, Space Research Centre Polish Academy of Sciences, Warsaw, Poland, 2016

M.Sc., Physics, Opole University, Poland, 2010

MISSION CONTRIBUTION

IMAP (Co-I, IMAP-Lo Conversion Surface Lead)
SHIELD DSC (Director of Research Thrust 1)
New Horizons (Collaborator)
TRACERS/ACI (Calibration Team)
Interstellar Probe Mission Concept Study (Heliophysics Community Coordinator)
IBEX (Science Support)
MMS (Science Support)

MOST SIGNIFICANT PUBLICATIONS

- **Sokół et al. 2024**, *Diamond-like carbon conversion surfaces for space applications,* J. Appl. Phys.; 135 (18): 185301, DOI:10.1063/5.0203686
- **Sokół et al.** 2023, *Variation of Hydrogen Energetic Neutral Atom Flux in the Subsolar Magnetosheath as a Function of Solar Cycle,* JGR Space Physics Volume 128, Issue 9
- **Sokół et al.** 2022, *Interstellar Neutrals, Pickup Ions, and Energetic Neutral Atoms Throughout the Heliosphere: Present Theory And Modeling Overview*, SSR 218:18
- **Sokół et al.** 2021, B*reathing of the Heliosphere*, ApJ, 922:250 (11pp)
- **Sokół et al.** 2019, *Science Opportunities for Observations of the Interstellar Neutral Gas with Adjustable Boresight Direction*, ApJS, 245:28 (22pp)
- **Sokół et al.** 2019, *Interstellar Neutral Gas Species And Their Pickup Ions Inside The Heliospheric Termination Shock. The Large-scale Structures*, ApJ, 879:24 (20pp)
- **Sokół et al.** 2016, *Solar Cycle Variation of Interstellar Neutral He, Ne, O Density and Pick-up Ions along the Earth's Orbit*, MNRAS, vol. 458, Issue 4, pp 3691-3704