ROBERT S. WHARTON

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EDUCATION AND EXPERIENCE

2021-2024	Postdoc at NASA Jet Propulsion Laboratory
2017-2021	Postdoc at Max-Planck-Institut für Radioastronomie
2017	Ph.D. in Physics, Cornell University
2009	B.Sc. in Physics and Mathematics, Pennsylvania State University

EXPERTISE

Radio Astronomy • Single Dish Telescopes • Interferometric Arrays • Pulsar Astronomy • Novel Pulsar Search Strategies • High Precision Pulsar Timing • Fast Radio Bursts • The Galactic Center • Signal Processing • Large Astronomical Data Sets

PROGRAMMING

GENERAL:	Python • C • git • docker / singularity • Linux • LaTeX
ASTRONOMY:	Astropy • FITS / PSRFITS • PRESTO • dspsr • PSRCHIVE • tempo / tempo2 / pint • CASA

RESEARCH

My research focuses on high time resolution studies of pulsars, magnetars, and fast radio bursts. Recording data at time resolutions of ∼10 nanoseconds allows us to explore these astronomical objects at length scales down to a few meters, but produces a huge amount of data. I have developed many tools and pipelines to search very large data sets (in many different formats) for faint astrophysical signals.

RECENT:	Deepest Search for FRBs at 8 GHz • Developed a Pulsar Timing Pipeline for the Deep Space Network • Radar Monitoring of Space Debris in LEO
PAST:	First Localization of an FRB to Host Galaxy • Developed Novel Search Strategies for Pulsars • Modelled the Pulsar Population in the Galactic Center and Conducted the Deepest Search for Pulsars around the Supermassive Black Hole Sgr A*