



## MULTIFACETED UNDERSTANDING OF ACCRETING NEUTRON STARS AND THEIR ENVIRONMENTS: AN X-RAY POLARIMETRIC FOCUS

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X-ray imaging, timing, and spectroscopy of neutron stars have contributed immensely to our understanding of these dense, compact objects since the dawn of X-ray astronomy. However, many questions remain about the accretion geometry, magnetic field configurations, and particle acceleration mechanisms in accreting neutron stars. X-ray polarization has opened a new window into understanding accreting neutron stars, breaking degeneracies that exist in timing and spectroscopic analyses. The Imaging X-ray Polarimetry Explorer (IXPE), the first X-ray polarization mission in over 40 years, has observed over a dozen accreting neutron stars in its first two years of operations. I will describe some of the results from IXPE observations of accreting neutron stars thus far and discuss implications for our understanding of their accretion geometries. In particular, I will highlight results from one of the first-observed IXPE targets, 4U 1626-67, in which I showed that the observed low polarization levels are consistent with a hybrid accretion geometry, contrary to expectations.