

# Press Releases

## THE 2024 BRUNO ROSSI PRIZE GOES TO MARTIN WEISSKOPF, PAOLO SOFFITTA, AND THE SCIENTIFIC COLLABORATION OF THE IXPE MISSION



The prestigious 2024 Bruno Rossi prize of the High Energy Astrophysics Division (HEAD) of the American Astronomical Society was awarded to Martin Weisskopf, Paolo Soffitta, and to the scientific collaboration of the IXPE mission “for their development of the Imaging X-ray Polarimetry Explorer whose novel measurements advance our understanding of particle acceleration and emission from astrophysical shocks, black holes and neutron stars”. Launched in December 2021, IXPE is making an amazing contribution to our understanding of the mechanisms of many processes that occur in our

universe thanks to its new, rich, and detailed measurements. In particular, IXPE added two observables, the degree and angle of polarization simultaneously with the more usual spatial coordinate, temporal coordinate, and energy. This underlies the success of IXPE that undertook very important research in the field of acceleration phenomena in the most brilliant pulsar wind nebulae and blazars. It also made it possible to study turbulence phenomena and shocks in the remains of supernovae, mapping their magnetic field in close proximity to acceleration sites. The energy-resolved polarization analysis made it possible to study the plasma near the most brilliant galactic black holes and the galactic centre, and near those supermassive black holes of the active galaxies. The time-resolved polarization analysis then made it possible, for the first time, to directly measure the geometry of the binary pulsars and isolated pulsars such as the magnetar. Such parameters are sometimes degenerated by the usual spectroscopy and temporal variability analyses. All these extraordinary results that IXPE has already managed to obtain in just a few months’ work are behind the prestigious recognition just awarded by the American Astronomical Society.