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The 2019 outburst of the accreting millisecond pulsar SAX J1808.4-3658

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X-ray binaries (XRBs) comprise of compact objects, black hole or a neutron star, and a companion (donor) star. Depending on the mass of the companion, the XRB is classified as low-mass (Mdonor < 1 M⊙) or high-mass (Mdonor > ~ 8 M⊙). SAX J1808.4–3658 is a low-mass neutron star XRB, the first accreting millisecond pulsar (AMXP) known. The pulsar was confirmed with the detection of 401 Hz pulsations in 1998 from the Rossi X-ray Timing Explorer (RXTE) after the discovery of the x-ray source with the BeppoSAX satellite in 1996. In 2019 the source underwent an outburst which was monitored with Swift and observed with MeerKAT at 1.28 GHz as part of the ThunderKAT Large Survey Programme. We monitored SAX J1808.8-3658 weekly during its 2019 outburst with MeerKAT and Swift. In this talk I will report on the results of the campaign, where I will show the flux variability during the outburst and discuss the location of SAX J1808.4-3658 in the radio/X-ray plane.

Abstract field

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