

MAXI J1744-294: a new microquasar at the galactic center?

X-ray binaries are systems consisting of a compact object (neutron star or black hole) accreting matter from a stellar companion. While spending most of their time in quiescent state, these binary systems are generally discovered in outburst, when they enter a high accretion rate state and brighten by several orders of magnitude. In this configuration, many (if not all) X-ray binaries are able to launch relativistic jets. Those X-ray binaries have been nicknamed ‘microquasars’, in reference to their supermassive analogues.

MAXI J1744-294 is a new galactic transient discovered by MAXI in early 2025, only 18'' away from Sgr A*. The outburst was confirmed by many X-ray instruments, while we identified a radio counterpart to the X-ray transient using the MeerKAT telescope. Here, we report on the multi-wavelength monitoring of the source using MeerKAT and ATCA in the radio band, and Swift/XRT in the X-rays. Since its discovery, MAXI J1744 has mostly been in the soft state, while staying very bright at radio wavelengths, which is completely unexpected in this spectral state. Besides, we have detected several radio knots moving away from the core. If confirmed, the apparent highly superluminal motion of these sources implies that relativistic jets are launched by MAXI J1744, making the latter a new microquasar, and possibly one of the closest to the center of our Galaxy.