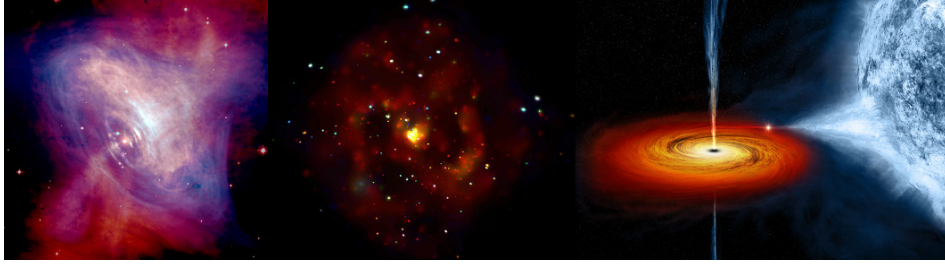


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An optical follow-up study of the classical symbiotic outburst of TCP J18224935-2408280

Wednesday, April 5, 2023 2:50 PM (10 minutes)

TCP J18224935-2408280 is a transient discovered by Tadashi Kojima in May 2021 and later classified as a symbiotic star. Our follow-up study shows that the newly discovered symbiotic star (TCP J1822) was undergoing a Z-And type outburst (classical symbiotic outburst). To understand the nature of the outburst, low-resolution spectroscopic observations from HCT were obtained from May 2021 to September 2022, covering the evolution of the outburst to its quiescent phase. We also analysed photometric data from GAIA and ASAN-SN and obtained the orbital period to be ~ 599 days. Multiband photometric data available was used to find the nature of the cool-giant present in the system by constructing and fitting a SED using ARIADNE. The nature of the outburst was studied using the spectral evolution of the system during the outburst. We showed how the temperature, luminosity and radius of the hot component (white dwarf) in the system evolved during the outburst, using which we constrained the possible cause of the outburst in the system as a combination nova. We also examined the emission line profiles and flux variations during the outburst. I will present the above results in detail.

Presentation Type

Oral

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