



Discovery and identification of infrared counterpart candidates of four Galactic centre low mass X-ray binaries

P.A. Curran (1), S. Chaty (1), J.A. Zurita Heras (2) ((1) CEA-Saclay, (2) FAcE-U. Paris Diderot)

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The near infrared (nIR)/optical counterparts of low mass X-ray binaries (LMXBs) are often observationally dim and reside in high source density fields which make their identification problematic; however, without such a counterpart identification we are unable to investigate many of the properties of LMXB systems. Here, in the context of a larger identification campaign, we examine the fields of four LMXB systems near the Galactic centre, in a bid to identify nIR/optical counterparts to the previously detected X-ray point sources. We obtain nIR/optical images of the fields with the ESO - New Technology Telescope and apply standard photometric and astrometric calibrations; these data are supplemented by Spitzer-GLIMPSE catalog data. On the basis of positional coincidence with the arcsecond accurate X-ray positions, we identify unambiguous counterpart candidates for XTE J1637-498, IGR J17379-3747, IGR J17585-3057 and GX 9+1. We propose tentative nIR counterparts of four LMXBs which require further investigation to confirm their associations to the X-ray sources.

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