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Detection of an IR burst in 4U 1728-34

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We report for the first time the detection of X-ray burst in the IR K-band from the neutron star low mass X-ray binary 4U 1728-34. Using high time resolution IR observations we find a rapid increase of the IR emission 6 seconds after the appearance of an X-ray burst. We interpret such long delay as the light-travel time from the neutron star to the companion star surface, where the X-ray emission is reprocessed. From the value of the delay it was possible to infer a period between 3 and 8 hours, which is significantly higher from the one measured in past studies. Combining these new informations with the properties of the X ray bursts from the neutron star, I will discuss the physical implications regarding the nature of the companion star.

Topic

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