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## Parkes upper limit on pulsed radio emission from MAXI J0911-655 at 20-cm

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Following the discovery of coherent 2.9-ms X-ray pulsations (Sanna et al. 2016 arXiv:1611.02995) from the transient MAXI J0911-655 (Mihara et al. 2011) in the globular cluster NGC2808, we searched for a radio pulsar counterpart in 20-cm Parkes archival data.

The Parkes Radio Telescope observed NGC2808 as part of the project P778 on August 28th 2011 for a total of 7.5 hr using the central beam of the multibeam receiver at a frequency of 1369 MHz. Total intensity data were collected over a 256-MHz bandwidth split in 1024 channels. The data were 1-bit sampled every 100 micro-sec using the Digital Filterbank DFB4 in search mode.

Data were first de-dispersed with dispersion measure values ranging from 0 to 250 pc/cm<sup>3</sup> and subsequently folded exploiting the knowledge of the pulsar ephemeris obtained from X-ray observations. To account for the reported errors in the pulsar rotational and orbital parameters, and their propagation in time back to the date of the radio observations, we used a range of ephemerides with a varying time of the ascending node spanning 84 seconds (~3% of the orbit). The errors in the other parameters, given their small values, could be neglected. The data were analysed using PRESTO (<http://www.cv.nrao.edu/~sransom/presto/>). The code for folding was also allowed to search for a range of periods ( $\pm 2e-6$  s) and period derivatives ( $\pm 5e-13$  s/s).

No pulsed radio signal was found in the Parkes data and an upper limit of ~32  $\mu$ Jy can be placed on the pulsed emission, assuming the parameters of the pulsar have not drastically evolved from the epoch of radio observations. Since we do not know what the status of MAXI J0911-655 was in X-rays during radio observations, we cannot exclude that the neutron star was accreting at low level at the time, hampering the possibility to emit radio pulsations. Radio pulsations at 20-cm

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could also have been eclipsed by a residual accretion disk.

Swift/XRT performed a nearly continuous monitoring of MAXI J0911-655 since February 2016 and showed that the source has not entered quiescence since it was first discovered in X-rays. Hard X-ray emission from the source has also been recently reported with INTEGRAL (Atel #9738). New observations to be obtained as soon as the source gets back to X-ray quiescence will be of paramount importance to try and establish whether this source could be the 4th of the small class of transitional millisecond pulsars.

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