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Is soft x-ray transient 1H 1905+000 a radio millisecond pulsar now?



X-ray

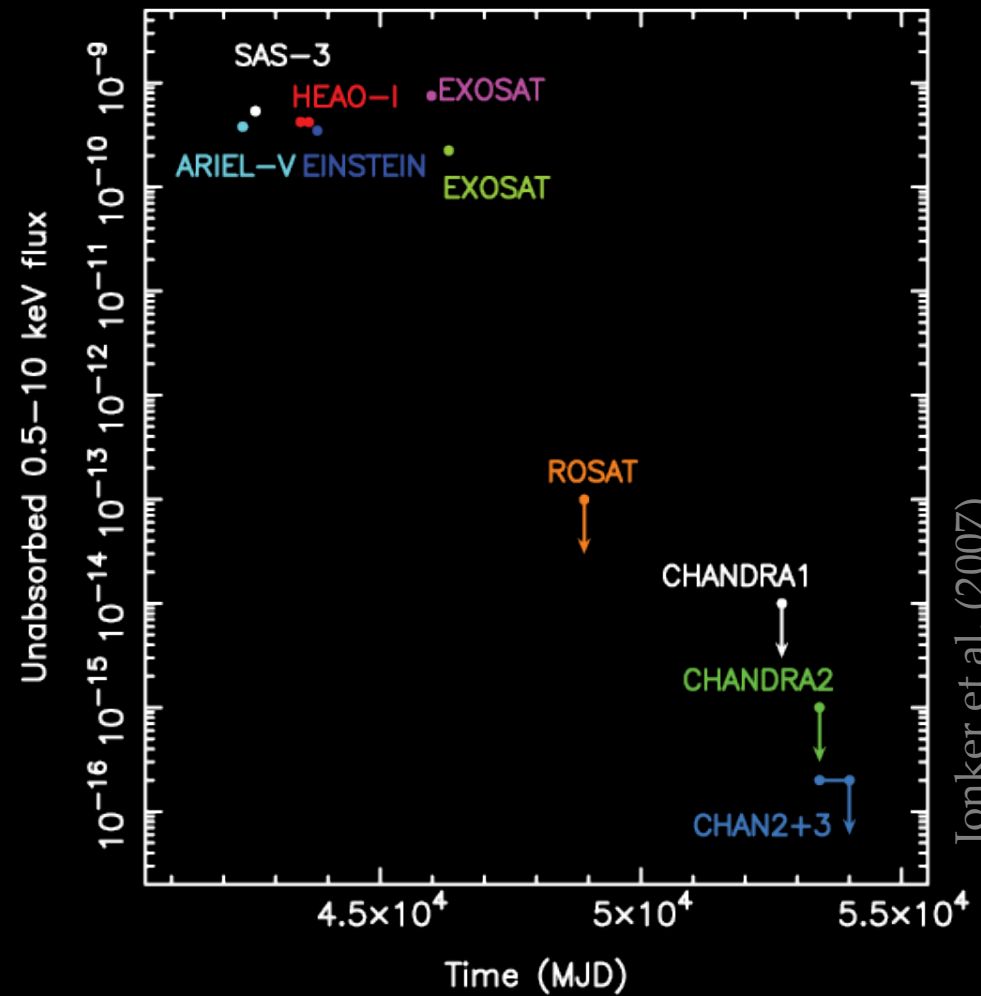
1H 1905+000

Outburst:

- Type-I X-ray bursts,
- Optical counterpart

Quiescence:

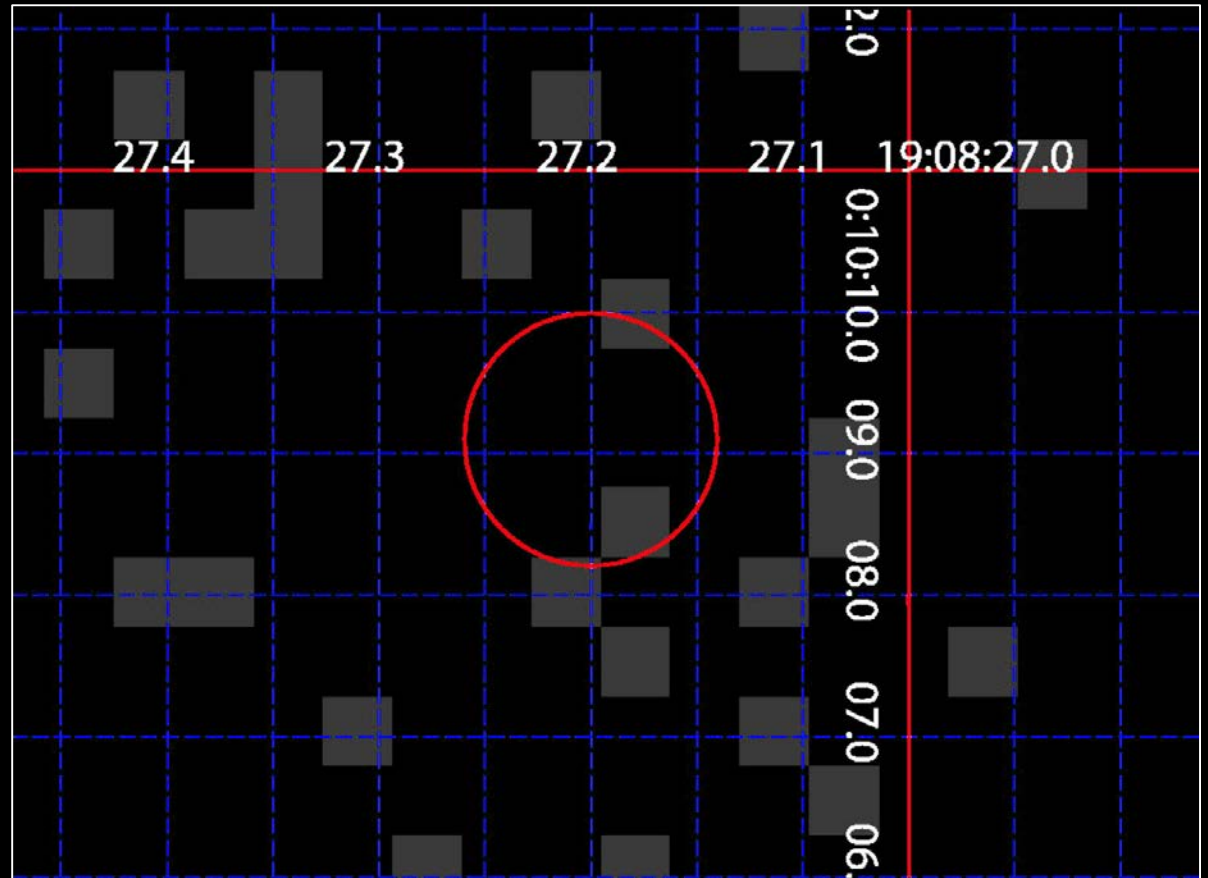
- Very dim
- No optical counterpart



Jonker et al. (2007)

300ks Chandra ACIS

$< 2.4 \times 10^{30} \text{ erg s}^{-1}$



Jonker et al. (2007)

*Did 1H 1905+000 transform into a millisecond radio pulsar yet?*



## Radio

*Search for radio pulsations with Arecibo.*

2006 May 20 and June 25

2015 April 14

Observed at 1.4 GHz, with  
300 MHz WAPPs / 800 MHz PUPPI  
bandwidth, at 128 / 41  $\mu$ s sampling



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$d$ (kpc)	$L_{\text{pseudo}}$ (mJy kpc <sup>2</sup> )	Completeness (%)
7	$< 0.09 \pm 0.07$	99.3
10	$< 0.17 \pm 0.14$	98.9

Mikhailov et al. 2015 (*in prep.*)



1H1905+000

### Conclusion:

The MSP is either not on; or not pointed at Earth ( $P = \sim 0.5$ ).

Low temperature or quiescent luminosity not proven to be decisive.