

# The Identification of the X-ray Counterpart to PSR J2021+4026

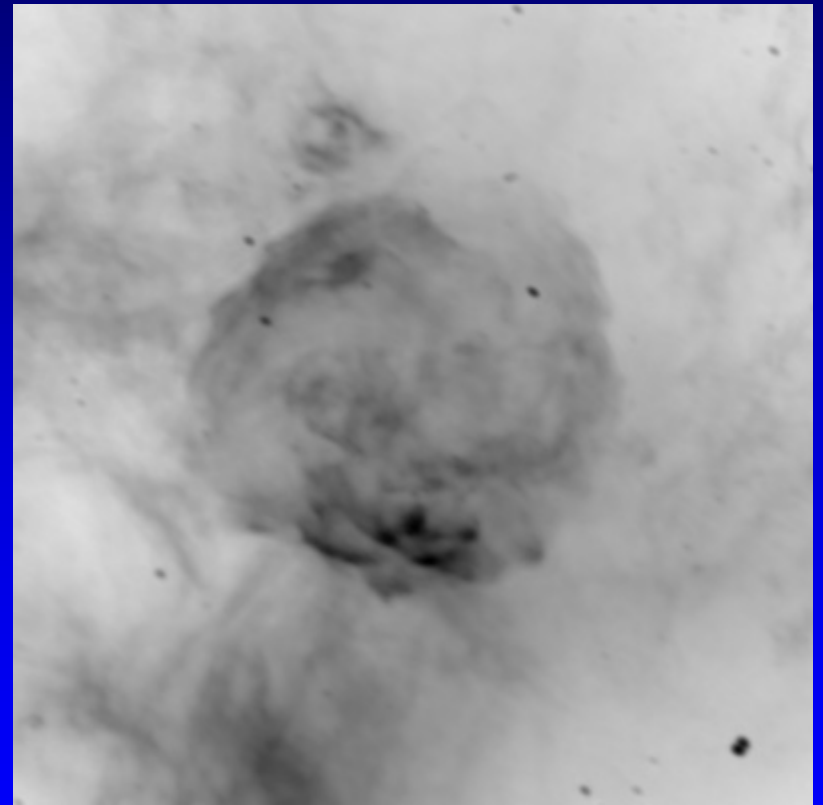


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# PSR J2021+4026 is the Fermi-LAT 265-ms pulsar “Gamma-Cygni”

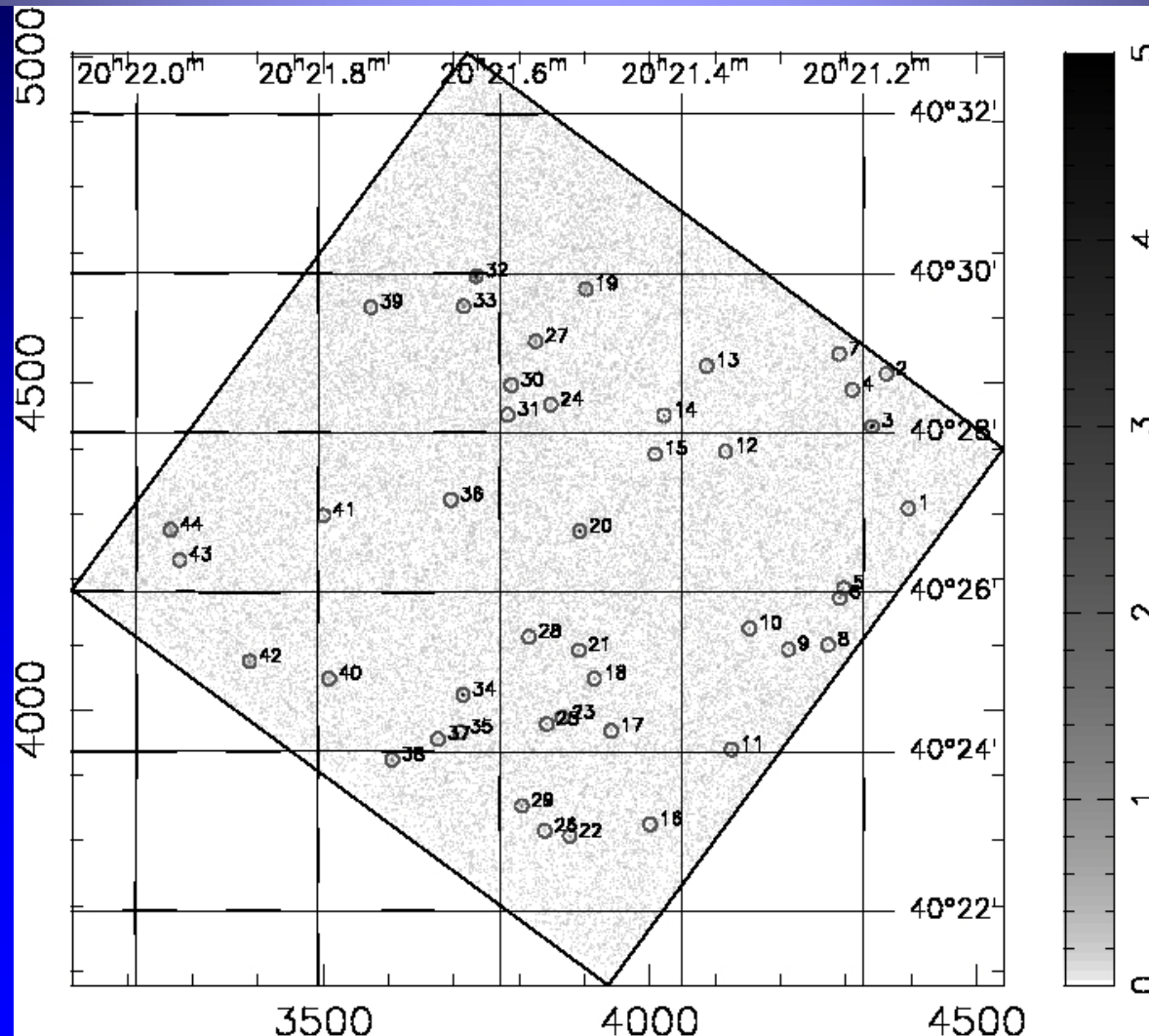
- 2CG 078+2 (*COS-B*)
- 3EG J2020+4017



- SNR G78.2+2.1

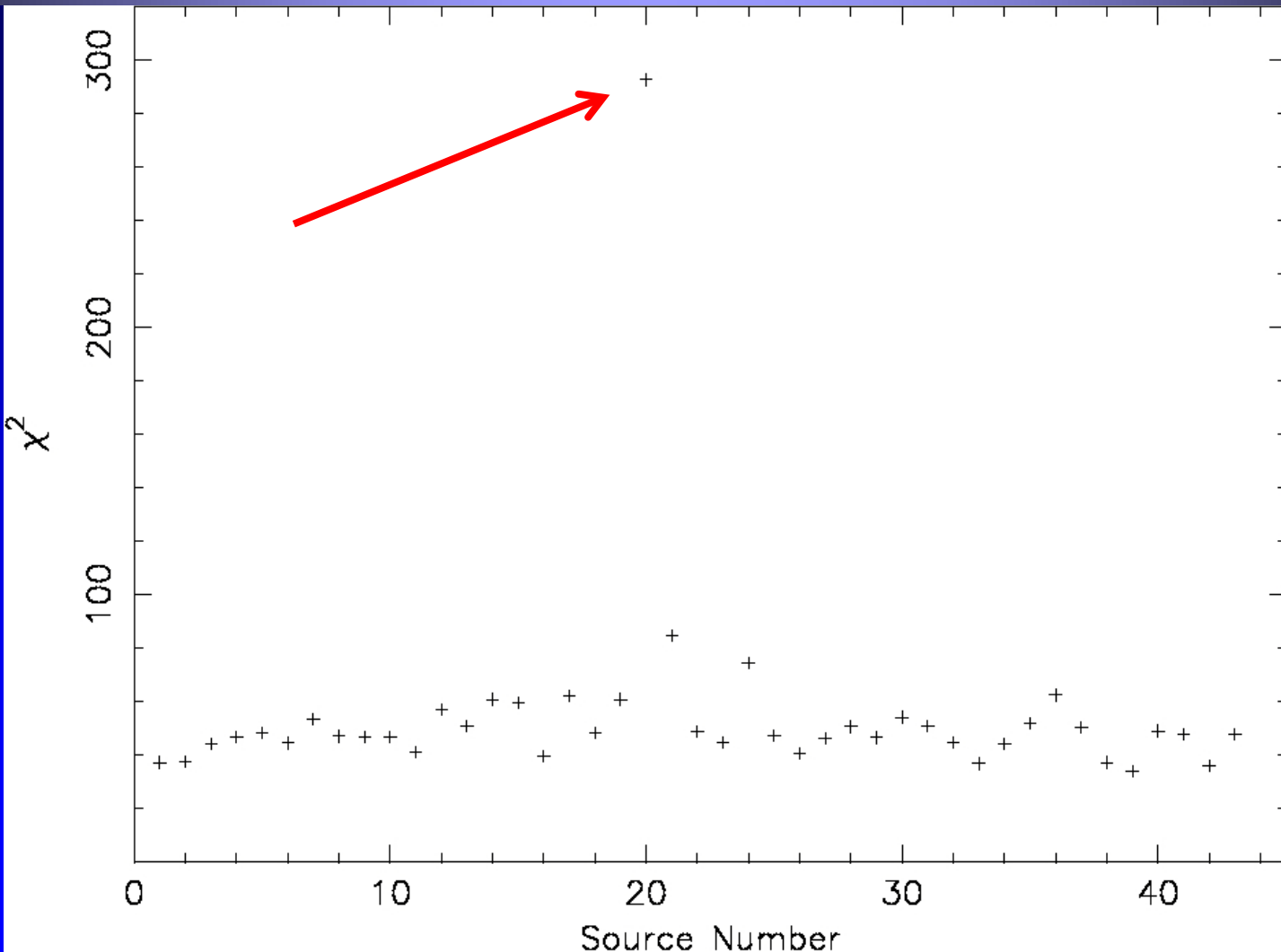


# Where is the beef?



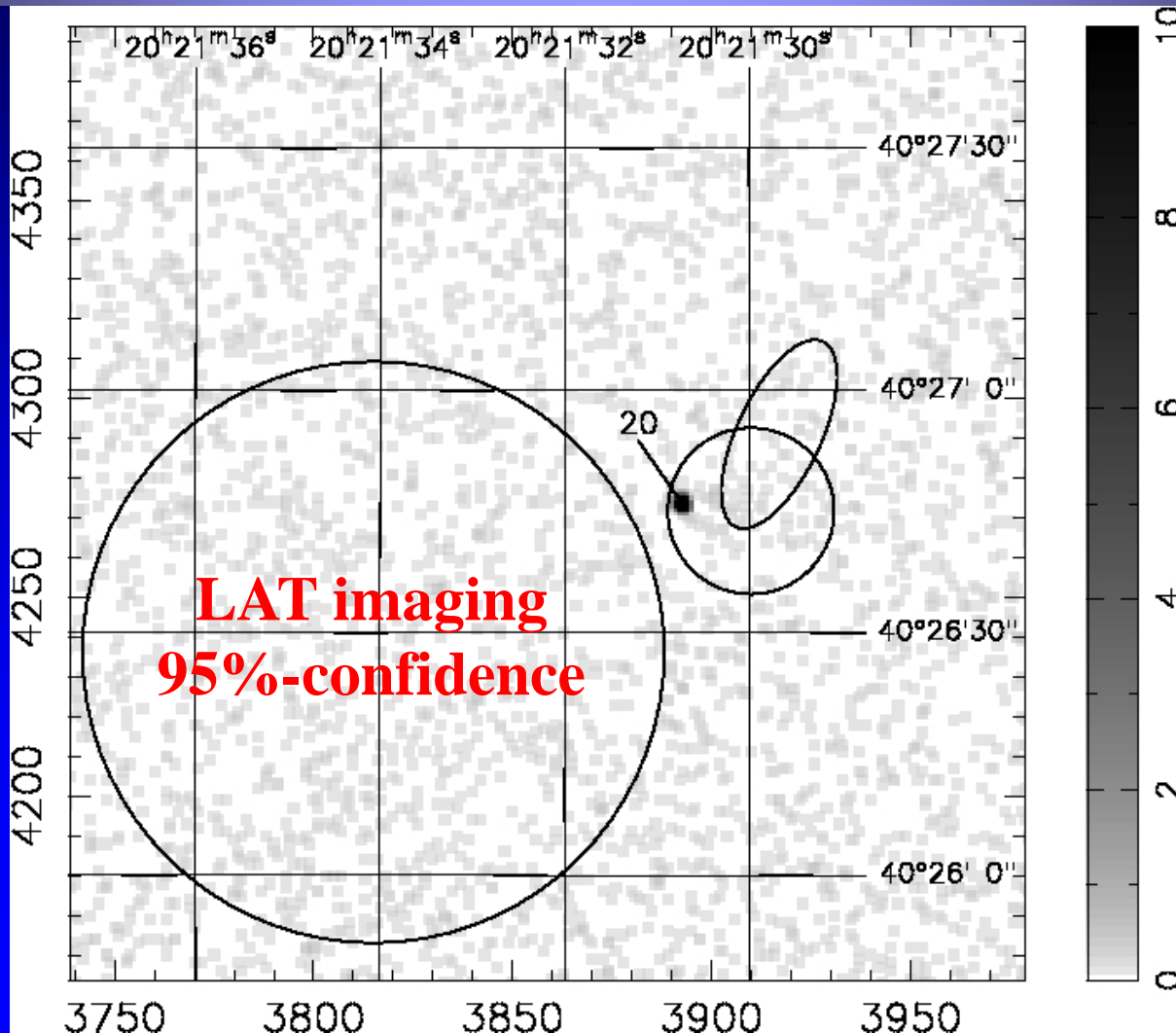


# S20 is the most-likely the X-ray counterpart



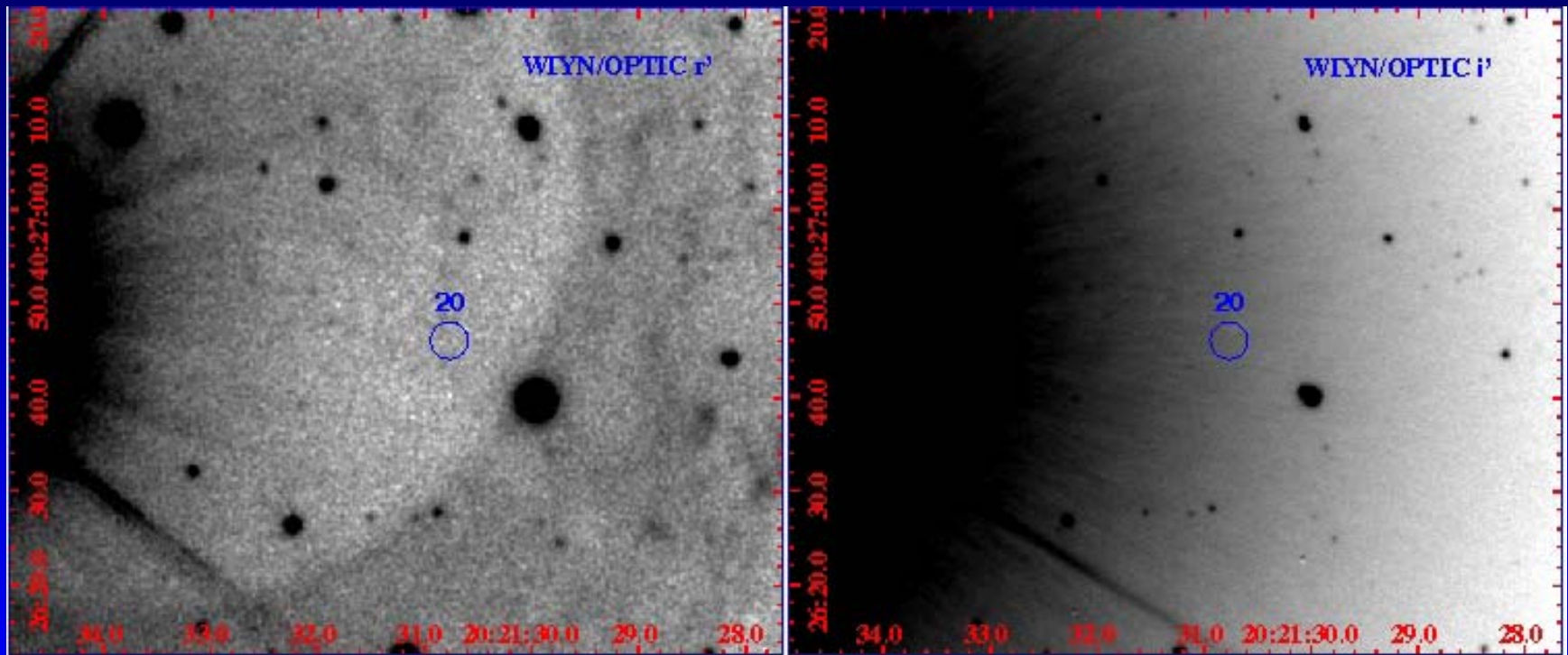


# The Chandra source is the best choice by position





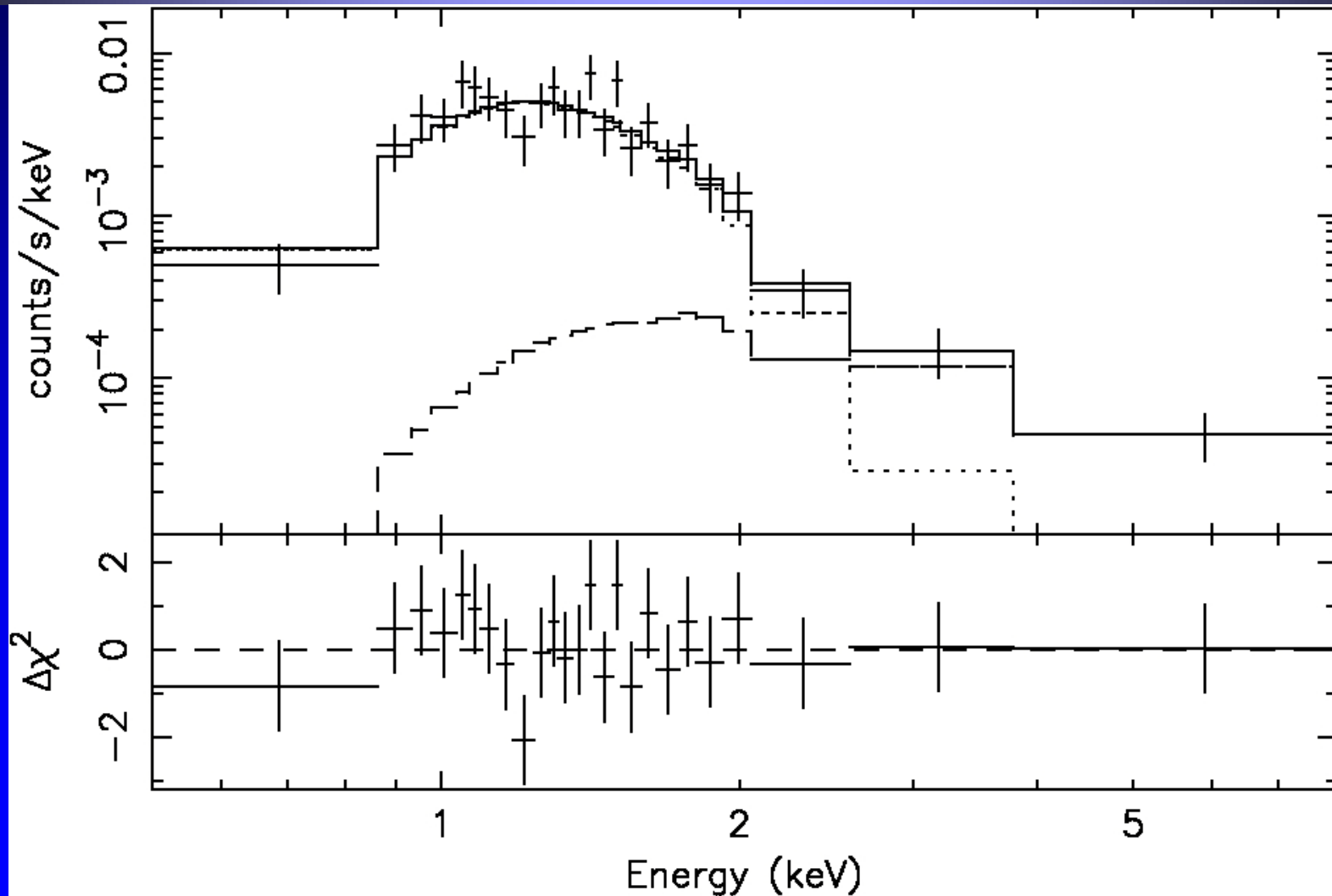
No optical counterpart:  $r' > 25.2$



$$F_X/F_V \geq 250$$



The X-ray spectrum is consistent with the thermal emission we expect





## Why we are (almost) sure

- The X-ray candidate is only 14.7'' from the best-fitting  $\gamma$ -ray timing solution
  - ❑ within the combined statistical and systematic errors
  - ❑ No other X-ray sources within 1'
- Spectral shape consistent with soft [ $\log T \sim 6.0$ -6.5] thermal emission
- $F_{\gamma}/F_{X} \sim 1.1 \times 10^4$
- Does it pulse?