

INTEGRAL IBIS/ISGRI and JEM-X observations of PSR B0540-69

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ABSTRACT: The high-energy pulsar PSR B0540-69 in the Large Magellanic Cloud ($d \sim 49.4$ kpc), embedded in a synchrotron plerion in the centre of SNR 0540-69.3 is often referred to as an extragalactic 'twin' of the Crab pulsar. Its pulsed emission has been detected up to about 48 keV so far. We present the results from our search for PSR B0540-69 up to 300 keV in the 1 Ms INTEGRAL data. INTEGRAL was pointed to the LMC during 6 revolutions in January 2003, and 3 revolutions in January 2004. The events used for timing and spectral analysis of the source come from the IBIS/ISGRI and JEM-X detectors. Moreover, we describe in details our data analysis technique used for this weak source.