Max Planck Institute for Extraterrestrial Physics

Thesis for Master of Science in Astrophysics

PySpi for Persistent Sources

Julius Möller

June 2023

Technische Universität München
Fakultät für Physik

Contents

1 Test

hello a

References

[1] Björn Biltzinger, J. Michael Burgess, and Thomas Siegert. "PySPI: A python analysis framework for INTEGRAL/SPI". In: *Journal of Open Source Software* 7.71 (2022), p. 4017. DOI: 10.21105/joss.04017. URL: https://doi.org/10.21105/joss.04017.

[2] Diehl, Roland et al. "INTEGRAL/SPI line spectroscopy - Response and background characteristics". In: *A&A* 611 (2018), A12. DOI: 10.1051/0004-6361/201731815. URL: https://doi.org/10.1051/0004-6361/201731815.

[3] Farhan Feroz et al. "Importance Nested Sampling and the MultiNest Algorithm". In: *The Open Journal of Astrophysics* 2.1 (Nov. 2019). DOI: 10.21105/astro.1306.2144. URL: https://doi.org/10.21105%2Fastro.1306.2144.

[4] E. Jourdain and J. P. Roques. "2003-2019 Monitoring of the Crab Emission through INTEGRAL SPI, or Vice Versa". In: *The Astrophysical Journal* 899.2, 131 (Aug. 2020), p. 131. DOI: 10.3847/1538-4357/aba8a4. arXiv: 2007.11519 [astro-ph.HE].

[5] E. Jourdain and J. P. Roques. "The High-Energy Emission of the Crab Nebula from 20 keV TO 6 MeV with Integral SPI". In: *The Astrophysical Journal* 704.1 (Oct. 2009), pp. 17–24. DOI: 10.1088/0004-637X/704/1/17. arXiv: 0909.3437 [astro-ph.HE].

[6] Jean-Pierre Roques and Elisabeth Jourdain. "On the High-energy Emissions of Compact Objects Observed with INTEGRAL SPI: Event Selection Impact on Source Spectra and Scientific Results for the Bright Sources Crab Nebula, GS 2023+338 and MAXI J1820+070". In: *The Astrophysical Journal* 870.2, 92 (Jan. 2019), p. 92. DOI: 10.3847/1538-4357/aaf1c9. arXiv: 1811.06391 [astro-ph.HE].

[7] Siegert, Thomas et al. "Background modelling for spectroscopy with INTEGRAL/SPI". In: *A&A* 626 (2019), A73. DOI: 10.1051/0004-6361/201834920. URL: https://doi.org/10.1051/0004-6361/201834920.

[8] Vedrenne, G. et al. "SPI: The spectrometer aboard INTEGRAL". In: *A&A* 411.1 (2003), pp. L63–L70. DOI: 10.1051/0004-6361:20031482. URL: https://doi.org/10.1051/0004-6361:20031482.