

GPS sky model for CTA 1DC

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August 28, 2017

Status: Work in progress
Version: August 28, 2017
Repository: <https://github.com/gammasky/cta-dc>

Abstract

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1 Introduction

What is this?

TODO: for which datasets was this model used? GPS, GC, EGAL?

2 Sky model components

2.1 Known bright sources

2.1.1 gamma-cat

We use gamma-cat (<https://github.com/gammapy/gamma-cat>) for most known VHE sources, except the ones listed in sections TODO and table TODO.

2.1.2 Image sources

See `sky_model/image_sources`

2.1.3 Binaries

See `sky_model/binaries` and Table 1.

Table 1: Gamma-ray binaries.		
Source Name	GLON	GLAT
	deg	deg
LS 5039	16.902	-1.278
PSR B1259-63	304.186	-0.987

2.2 Synthetic populations of faint sources

2.2.1 Pulsar wind nebulae

2.2.2 Supernova remnants

2.2.3 Composites

2.3 Diffuse emission

TODO: need short description of ISO and GAL diffuse emission components, no?

3 Illustrations and Checks

3.1 Spatial distribution in the Galaxy

Show and discuss X, Y, Z, distance distribution of sources in the Galaxy.

3.2 Spatial distribution on the Sky

Show and discuss GLON, GLAT distribution

3.3 Source sizes

Do physical and observed size together here should be OK?

3.4 Source fluxes

Look at one or more integral flux measures.

Discuss CTA sensitivity and which sources might be visible here or later?

3.5 Source spectra

Just as an example: For PWN spectra, see Fig. 1

How do we compare to HGPS (Carrigan et al., 2013)?

4 Conclusions

How did we do? What can be done better in DC2?

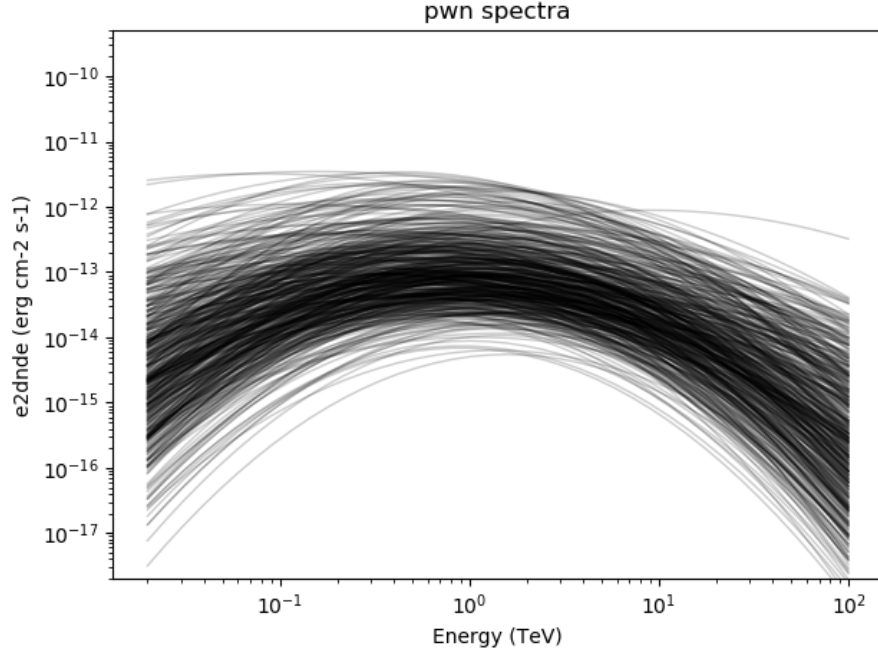


Figure 1: PWN spectra (just as an example of a Figure)

References

Carrigan, S., Brun, F., Chaves, R. C. G., Deil, C., Gast, H., Marandon, V., and for the H. E. S. S. collaboration (2013). Charting the TeV Milky Way: H.E.S.S. Galactic plane survey maps, catalog and source populations. *ArXiv e-prints*.