

GammaLib - Feature #3924

Add generalized Gaussian spatial model

12/08/2021 11:38 AM - Tibaldo Luigi

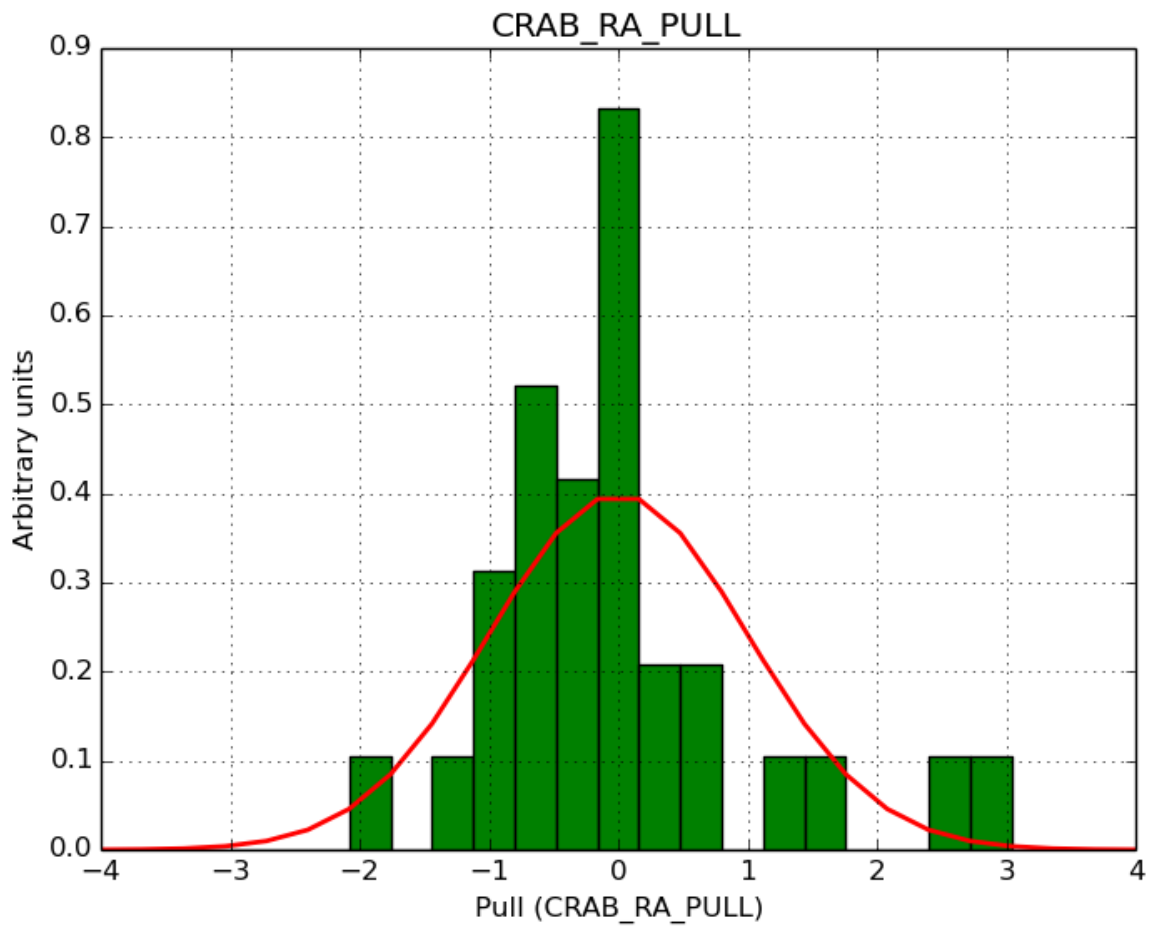
Status:	Closed	Start date:	12/08/2021
Priority:	Normal	Due date:	
Assigned To:	Tibaldo Luigi	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:	2.0.0		
Description A generalized Gaussian spatial model as described at https://docs.gammapy.org/dev/modeling/gallery/spatial/plot_gen_gauss.html#sphx-glr-modeling-gallery-spatial-plot-gen-gauss-py was used in some CTA studies. For cross-work I need to implement it in GammaLib. The implementation should follow the GammaLib conventions, i.e., separate the purely radial and elliptical case, and use the minor semi-axis as parameter rather than ellipticity.			

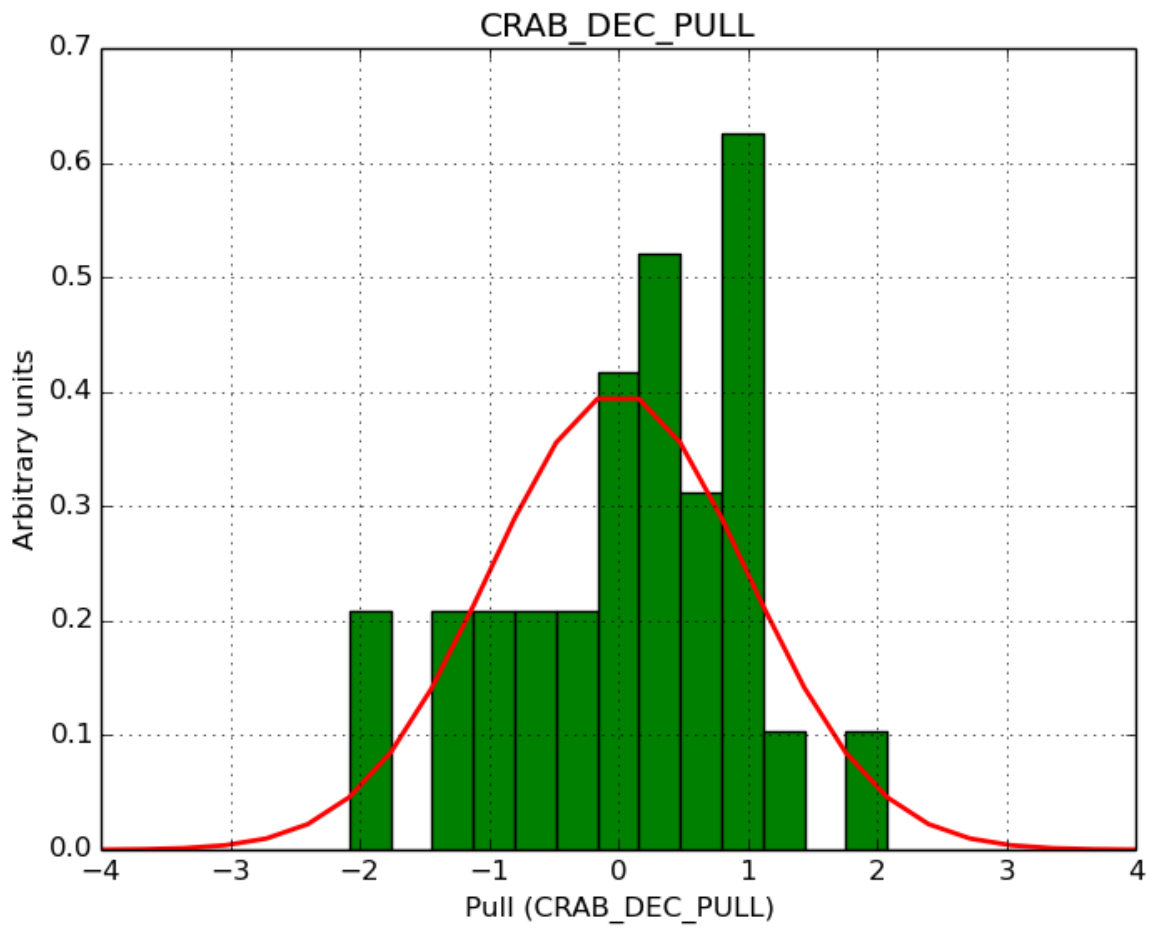
History

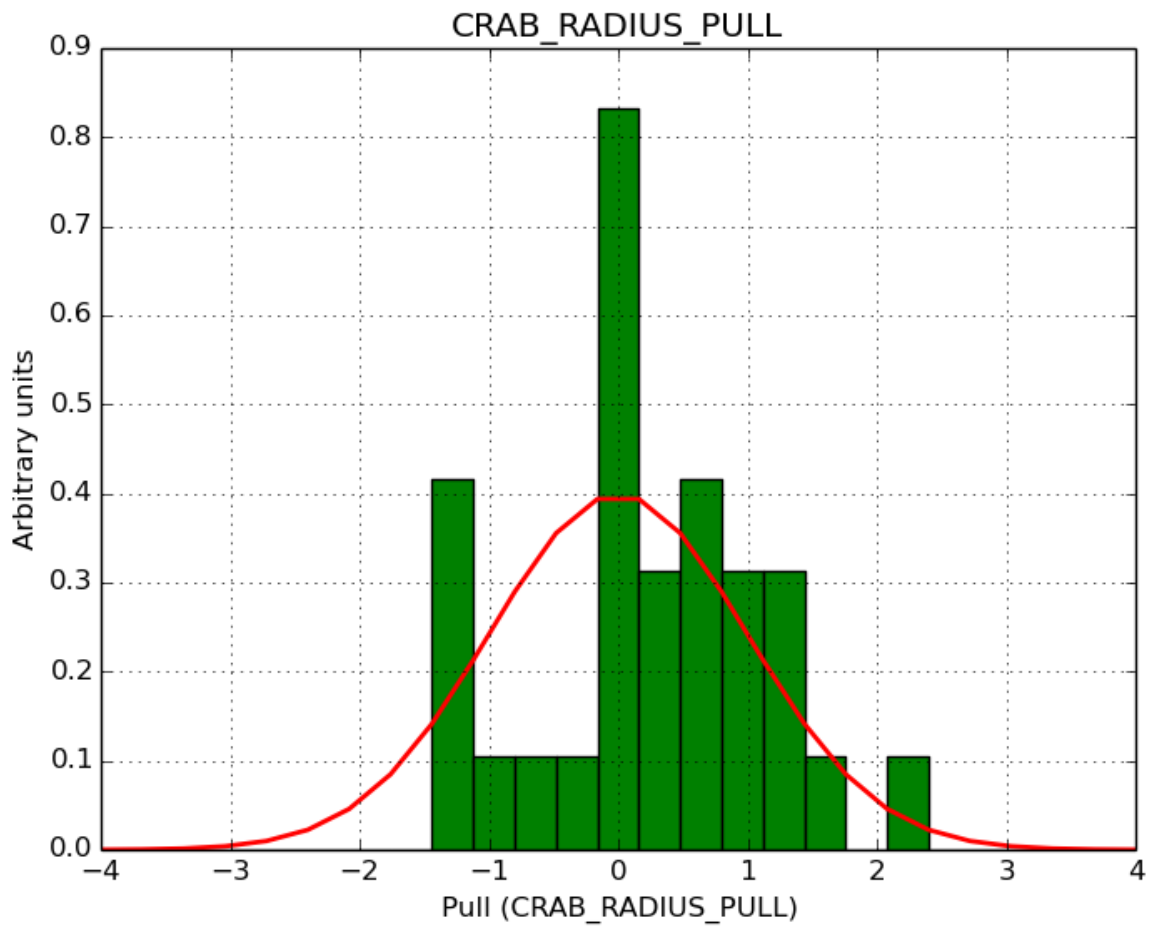
#1 - 12/15/2021 06:12 PM - Tibaldo Luigi

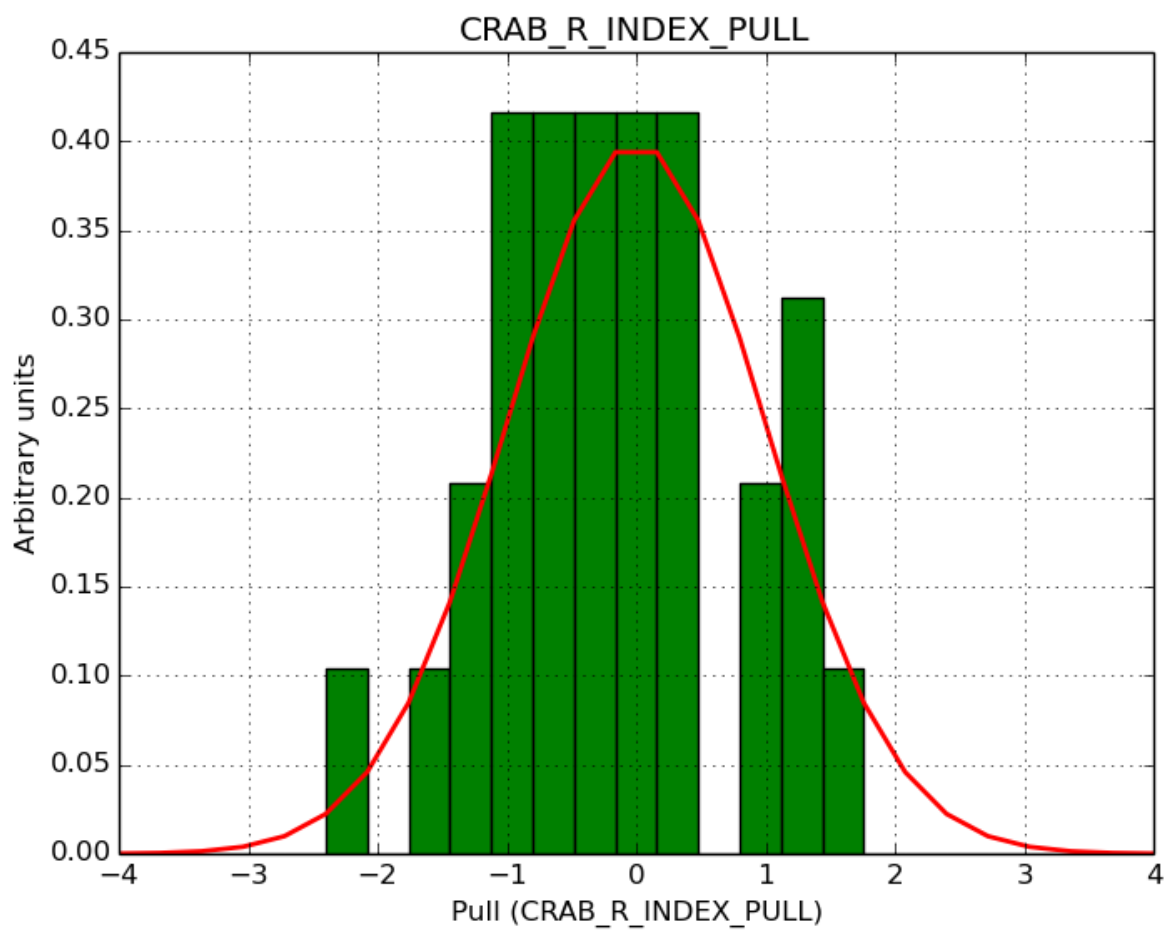
- File *bkg_pref.png* added
- File *dec.png* added
- File *index.png* added
- File *prefactor.png* added
- File *ra.png* added
- File *radius.png* added
- File *ridx.png* added
- % Done changed from 0 to 40

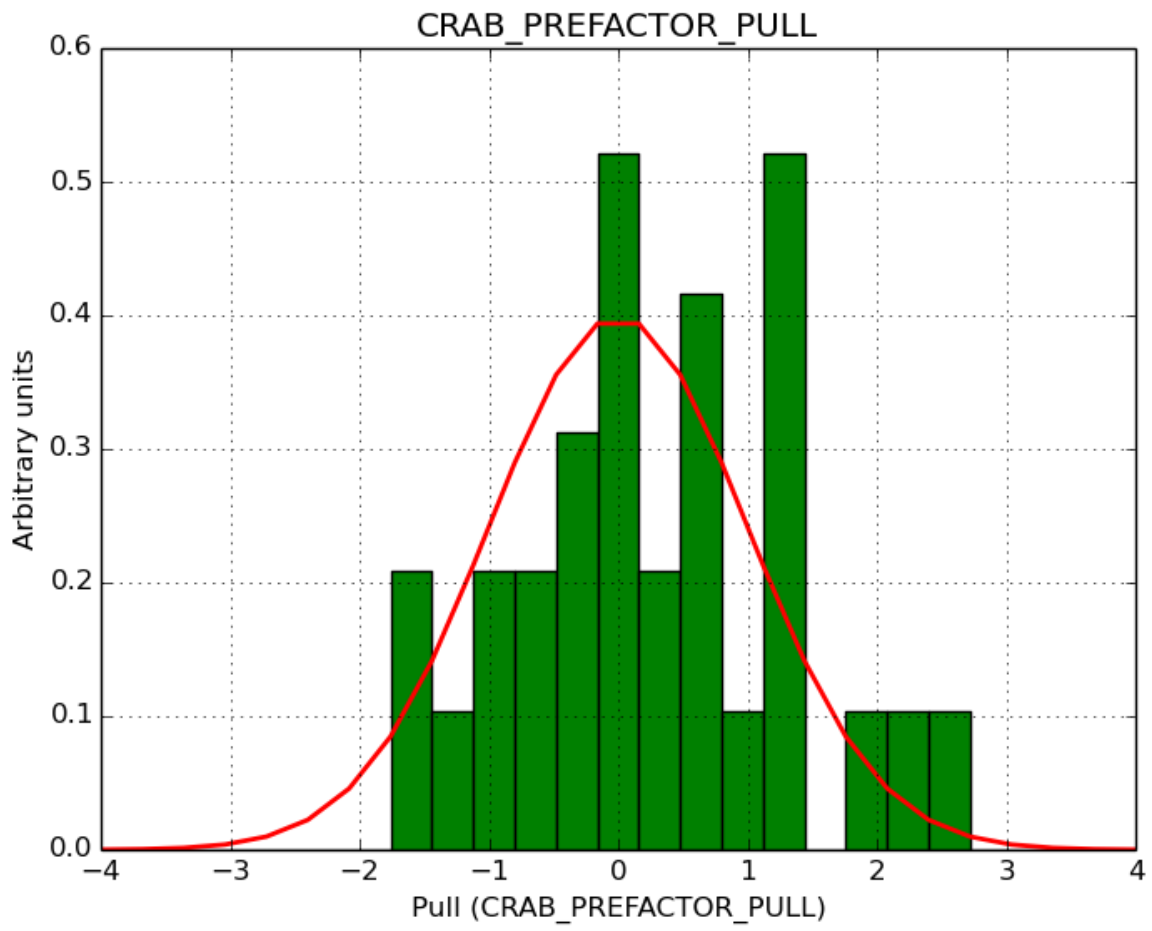
Implemented radial model.
I run a quick check making a set of pull distributions. Everything seems to work correctly.

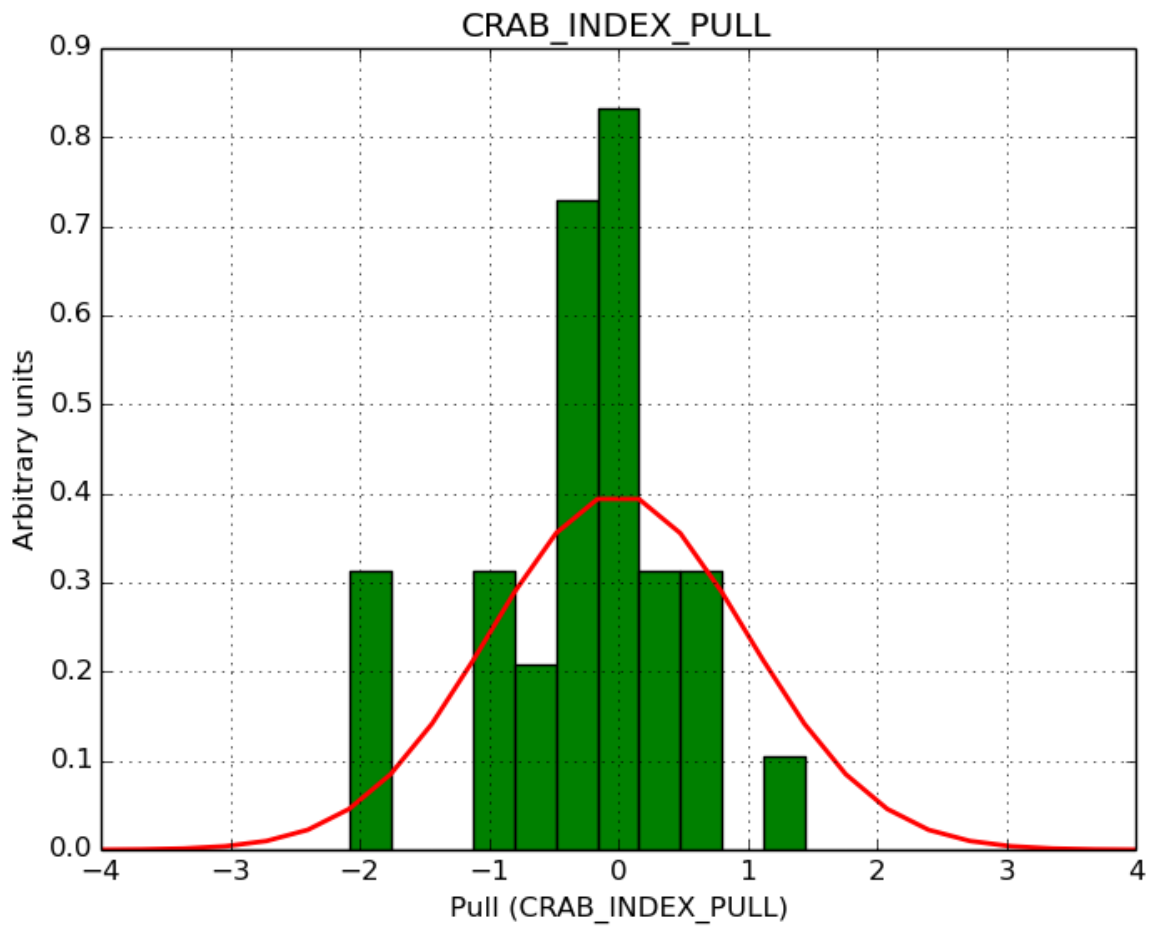


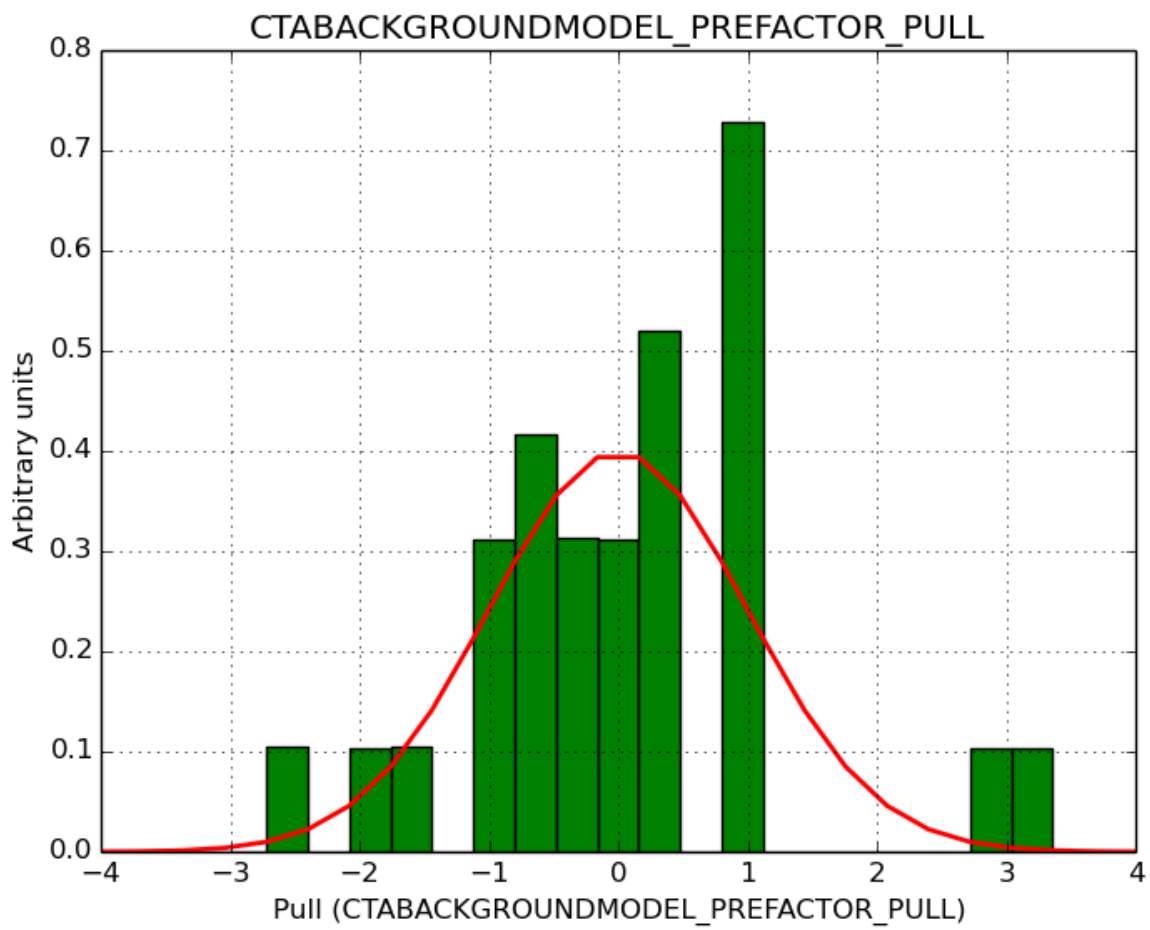








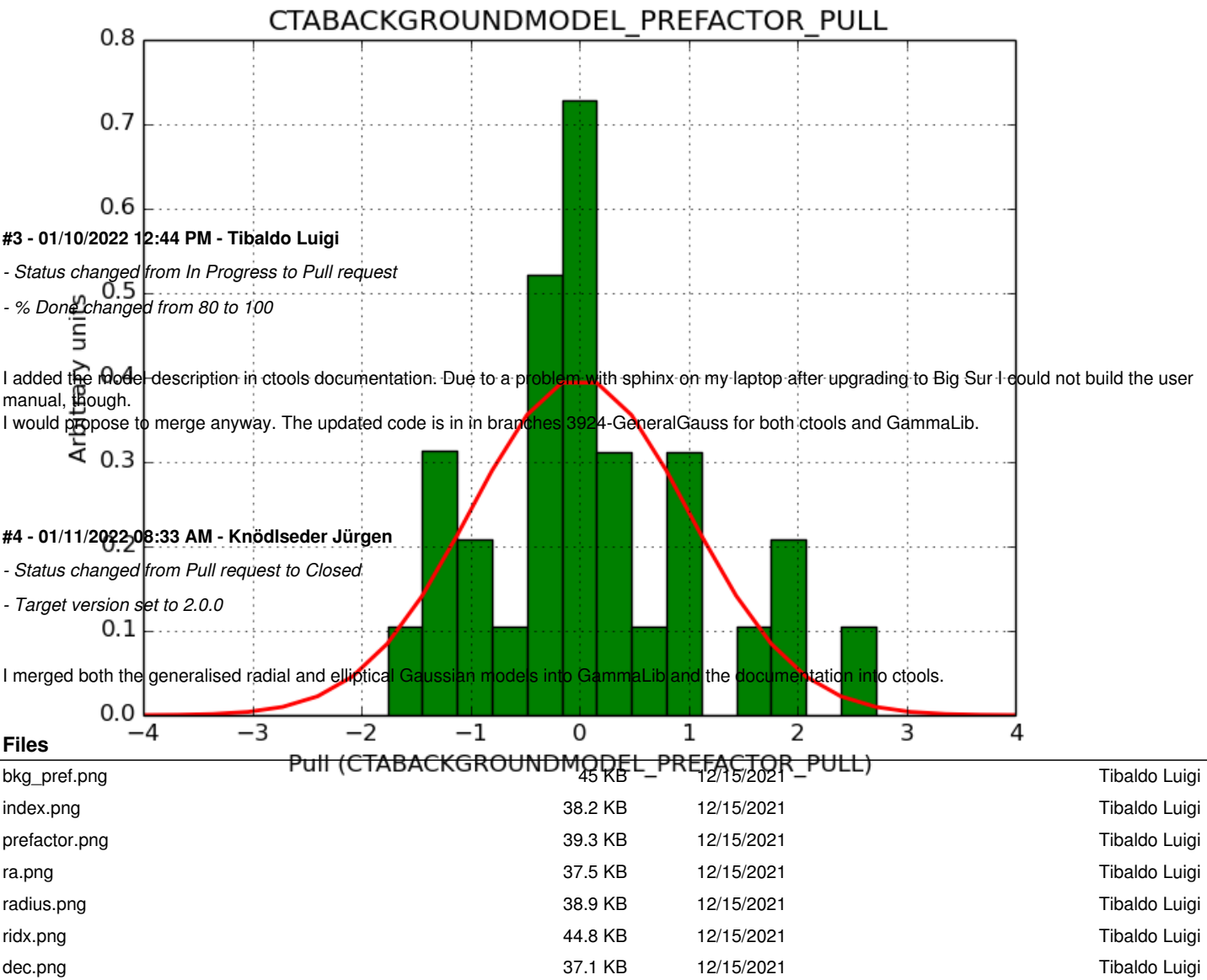




#2 - 01/10/2022 11:51 AM - Tibaldo Luigi

- File ell_bkgprefactor.png added
- File ell_dec.png added
- File ell_index.png added
- File ell_major.png added
- File ell_minor.png added
- File ell_pa.png added
- File ell_prefactor.png added
- File ell_ra.png added
- File ell_ridx.png added
- Status changed from New to In Progress
- % Done changed from 40 to 80

I also implemented the elliptical generalised gaussian, and run a simple test by creating a pull distribution.



ell_dec.png	37.1 KB	01/10/2022	Tibaldo Luigi
ell_index.png	38 KB	01/10/2022	Tibaldo Luigi
ell_major.png	41 KB	01/10/2022	Tibaldo Luigi
ell_minor.png	40.4 KB	01/10/2022	Tibaldo Luigi
ell_pa.png	36.7 KB	01/10/2022	Tibaldo Luigi
ell_prefactor.png	39.5 KB	01/10/2022	Tibaldo Luigi
ell_ra.png	37 KB	01/10/2022	Tibaldo Luigi
ell_ridx.png	38.4 KB	01/10/2022	Tibaldo Luigi
ell_bkgprefactor.png	45 KB	01/10/2022	Tibaldo Luigi