

ctools - Bug #1438

root2psf_king() in cta_root2caldb.py produces bad fits

03/10/2015 02:42 PM - Kelley-Hoskins Nathan

Status:	New	Start date:	03/10/2015
Priority:	Low	Due date:	
Assigned To:		% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:			
Description			
<p>The root2psf_king function uses the 68 and 80% containment radii, and attempts to fit the king function's sigma/gamma parameters. When the fitted sigma/gamma are checked by finding the containment fraction at the initial 68 and 80% radii, the fitted sigma/gamma always produces an 80% and ~88.3% containment fraction (instead of the expected 68% and 80%).</p> <p>I've transcribed the root2psf_king() algorithm to a c function for comparison (it might be my c function was transcribed from python wrong, so I'm attaching it as well, see secantfunction.c), and compared its results to a TMinuit fitting, using an integrated king function calculated from mathematica. The results are in secantbug.log (or secantbug.nocolors.log, if you don't want the color escape characters).</p> <p>In the attached log files, the first column (denoted by ':') is the method used in the fit, the second column is the initial given 68% and 80% containment radii, the 3rd column is the fitted sigma/gamma. The fourth column is the containment fraction when the radii is plugged back into the integrated psf with the fitted sigma/gamma from the 3d column. The 5th column will have 'warn!' if something is wrong with the line.</p>			

Files

secantbug.log	193 KB	03/10/2015	Kelley-Hoskins Nathan
secantbug.nocolors.log	167 KB	03/10/2015	Kelley-Hoskins Nathan
secantfunction.c	2.96 KB	03/10/2015	Kelley-Hoskins Nathan