IRF tests on morphological studies with gammpy:Goal
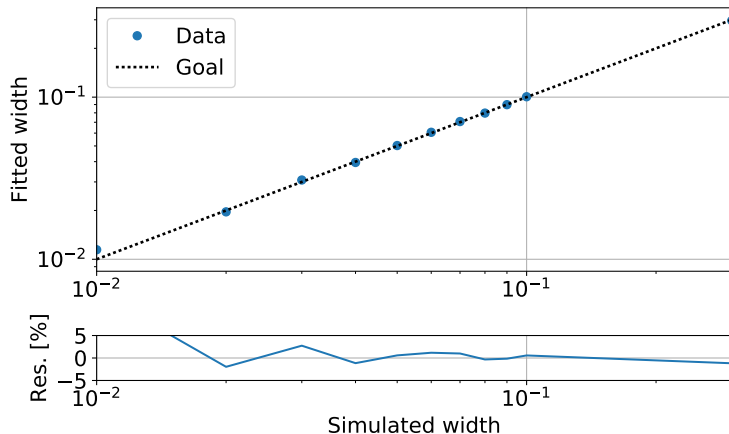
- Created my own set of IRFs from simulations using ctapipe (cut optimisation of ImPACT reconstruction)
- Next step: Test quality of new IRFs
- Plan: Simulate extended sources and fit size with gammapy
- Needed:
    - Elliptical spacial model
    - Composite model of point source and Gaussian (?)/ diffuse (?) model

First step: Simulation of circular extended sources

- Approach as in
  https://github.com/gammapy/gammapy/issues/1533
- Simulation of Gaussian extended sources between $0.01°$ and $0.3°$
- Using script: 3D simulation and fitting, but own IRFs
- Bin size: $0.02°$
- Energy range 0.1 TeV-100 TeV
- Observation time 50 h
- Test of fit quality

Results

- Fit within $\pm 5\%$ for sizes $\geq$ bin size
- For $0.01°$ deviation of 15% (not further investigated)