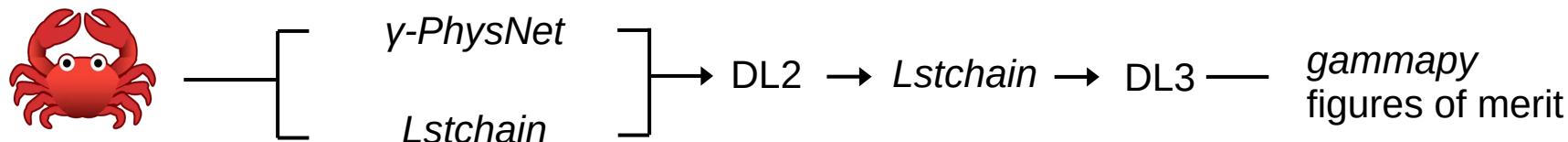


Gammalearn

- project in *ESCAPE* program (informatics for astrophysics or particules physics, openscience)
- Thomas, Michael, Vincent, Sami, Tom, Pierre, Alexandre (LISTIC) and me
- deep learning & adaptative domain (*y-PhysNet*, Michael Jacquemont) applied on LST data production chain and RTA
- My contribution (with Sami) : **benchmark** (*yscan*) to test Gammalearn performances with Crab data and compare with *Lstchain* performances





Runs
6892, 6893 (moonlight)
6894, 6895 (dark)

γ -PhysNet
(various models)

Lstchain
(MC with poissonian noise)

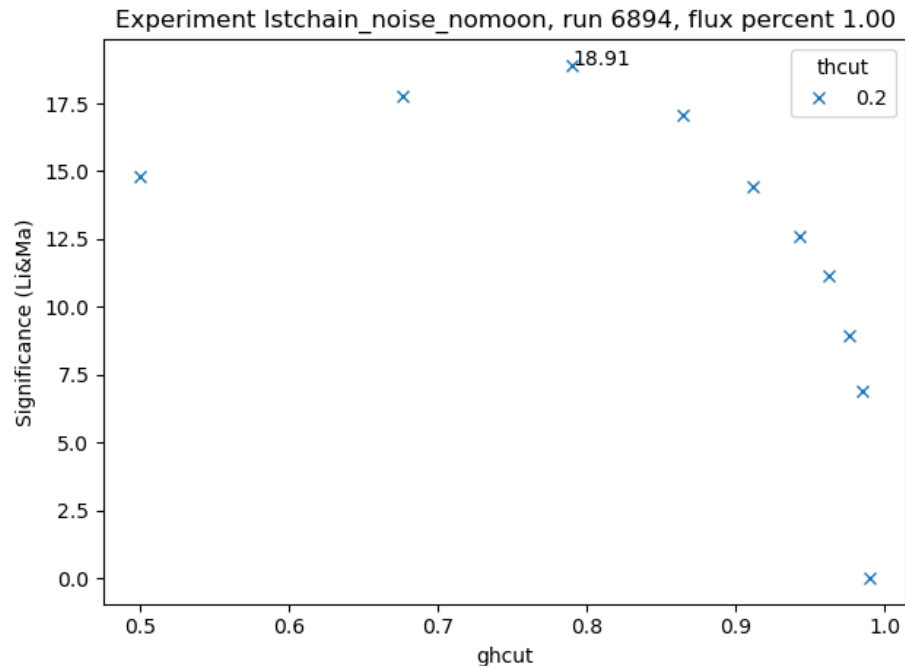
DL2

y_{prod}
(lstchain)

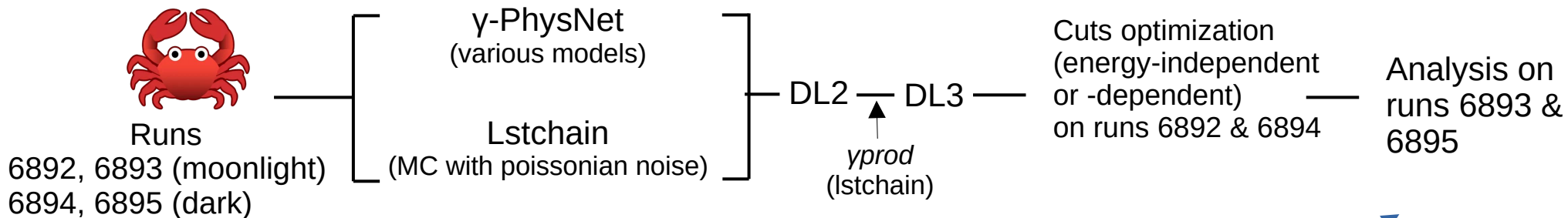
DL3

Cuts optimization
(energy-independent
or -dependent)
on runs 6892 & 6894

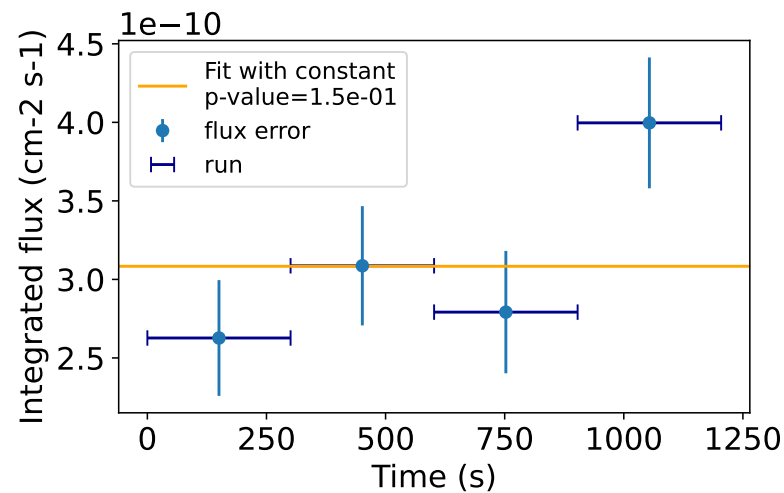
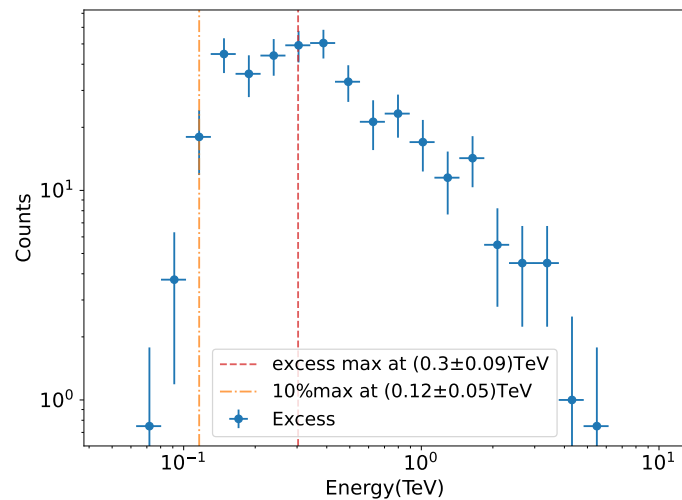
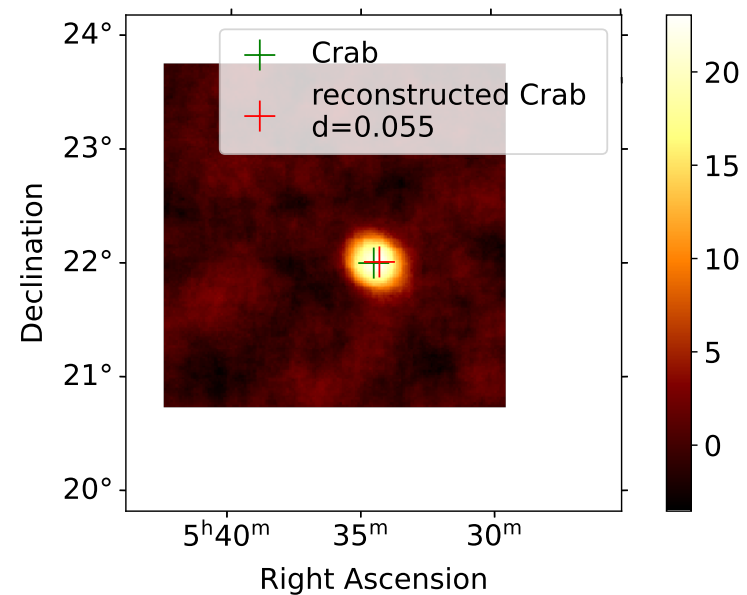
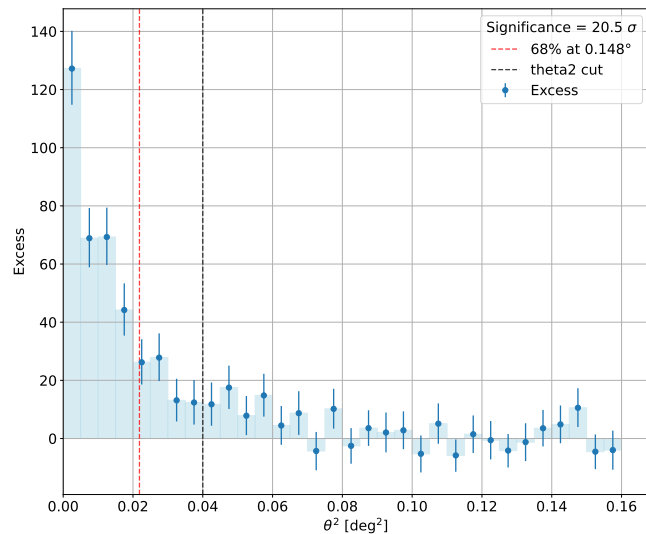
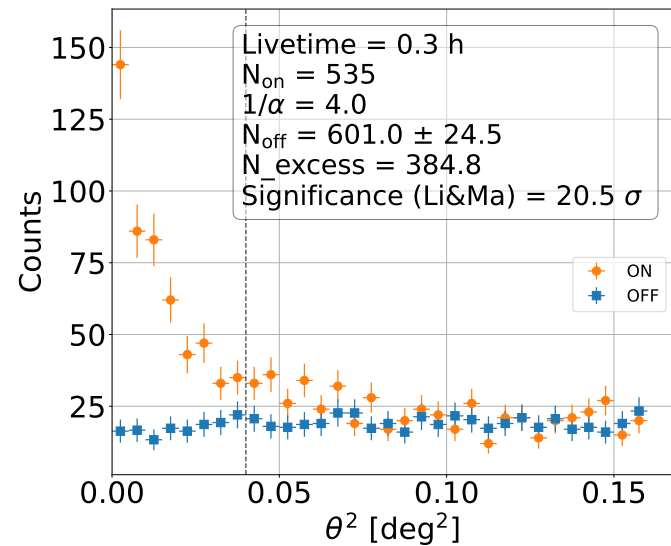
Analysis on
runs 6893 &
6895



- For various DL3 with given (θ, γ) cuts, compute the significance ;
- use the cuts with for which the significance is maximal



- Significance
- Safe energy range
- Angle corresponding to 68% of θ^2 plot
- Energy corresponding to the maximum of the excess and its error from simulations
- “Minimal reconstruction energy” from 10% of excess maximum and its error from simulations
- Bias on the reconstructed position (significance map)
- Variability estimation of the lightcurve (pvalue of a constant fit)



- Poster & proceeding in ADASS conference
- Results in Michael's thesis (energy-independent cuts (γ ness cut, θ^2 cut))
- Paper in october with energy-dependent cuts (γ efficiency, θ containment)

Ongoing

- merge branch of figures of merit from energy-dependent cuts
- “clean” 1st test on Istchain data & gammalearn data
- final results production