Update on e+Au Sartre Phi Generation and ECCE Reconstruction

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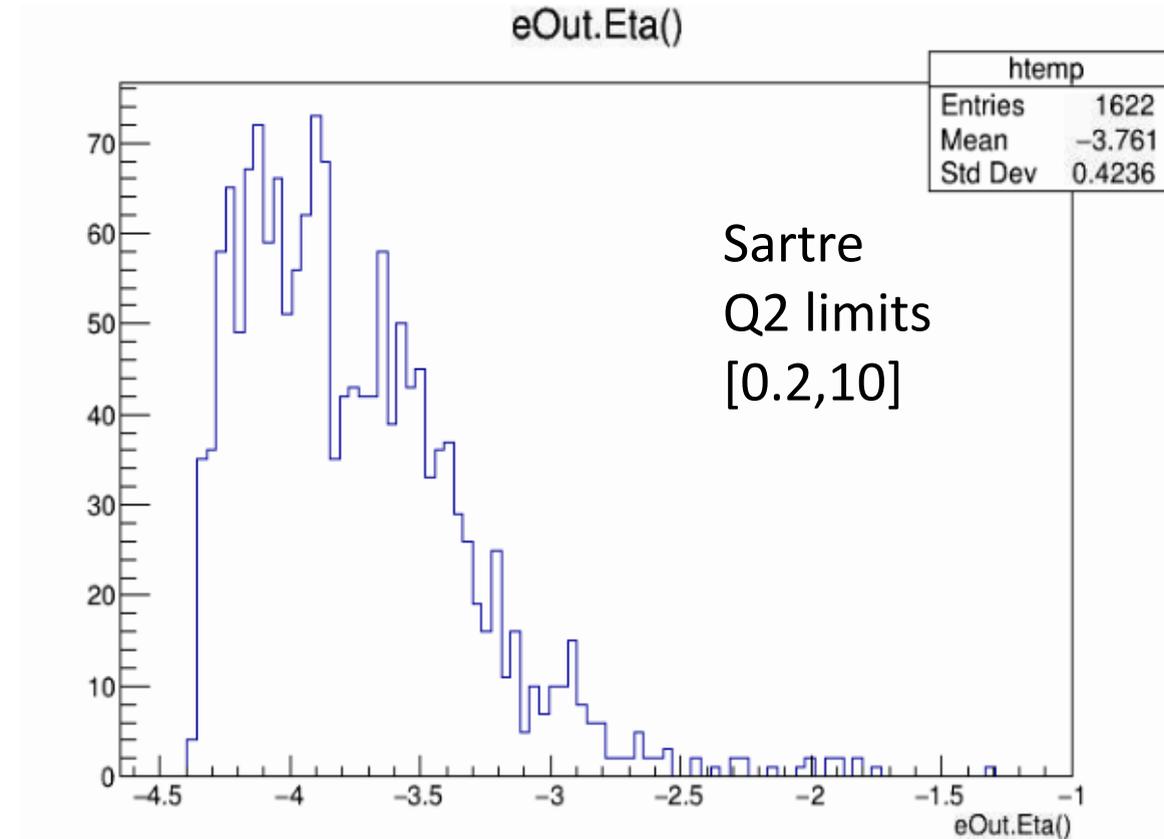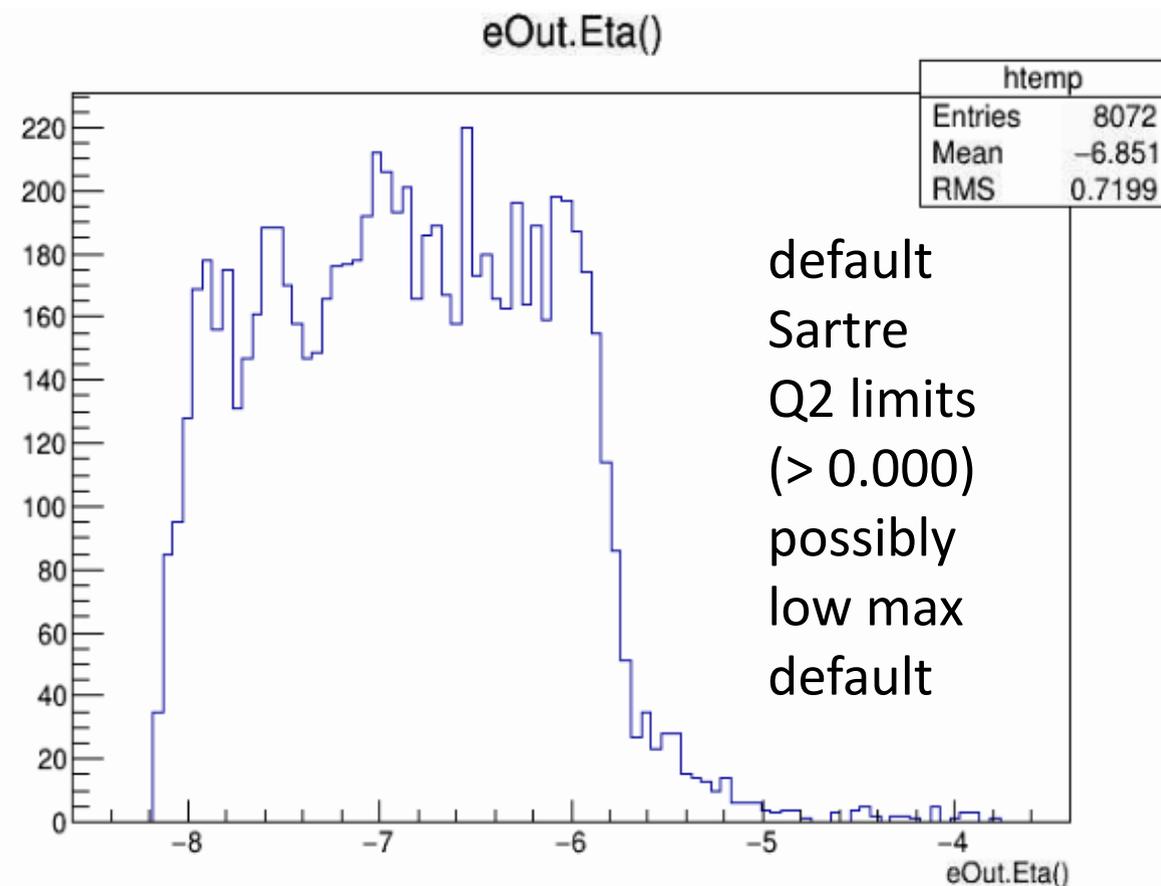
07/30/2021

ECCE Exclusive WG Meeting

Status

- I have recently re-tested my whole chwith Sartre (1.34 or 1.35 not sure which) generating phi events. Right now using 18 x 110 GeV
  - need to test out for other kinematics   From Julie's table: (where is that? btw) so also 41 on 5.
  - higher stats
- See next slides I think I am (mostly blindly without confirming too much where info is coming from in event_tree) reproducing similar results as Peter Steinberg did with J/Psi from eAu Sartre but with phi
- Now with 1000 Events – which takes ~15 minutes wall time for full G4 reco (Sartre/EICSmear negligible time)
- About 10 MB output files (including 5 MB Sartre/EICTree file) per 1000 ev (seems to scale from previous 100 MB test)   but not yet outputting DST (only evals) → per Rachel need to switch to this
- Only about 1/5 of events have both kaons reconstructable using tracks info in trees (includes forward tracking AFAICT ---)
- Figure we can just re-use ~mostly everything Peter develops for diffractive WG production, but do different input files, and modify #events, etc. based on any kinematics/efficiency differences (may need "trigger" at Sartre level)
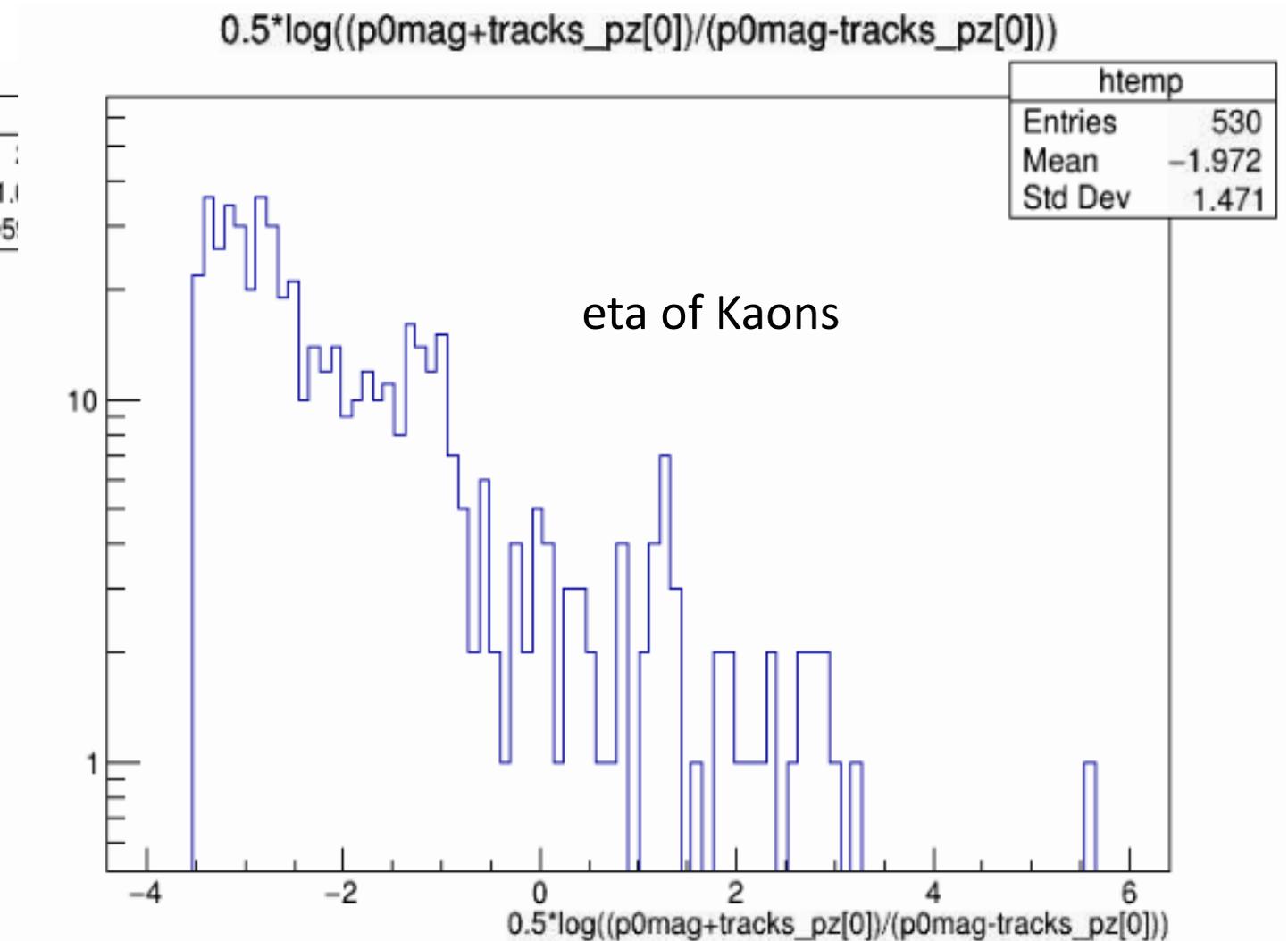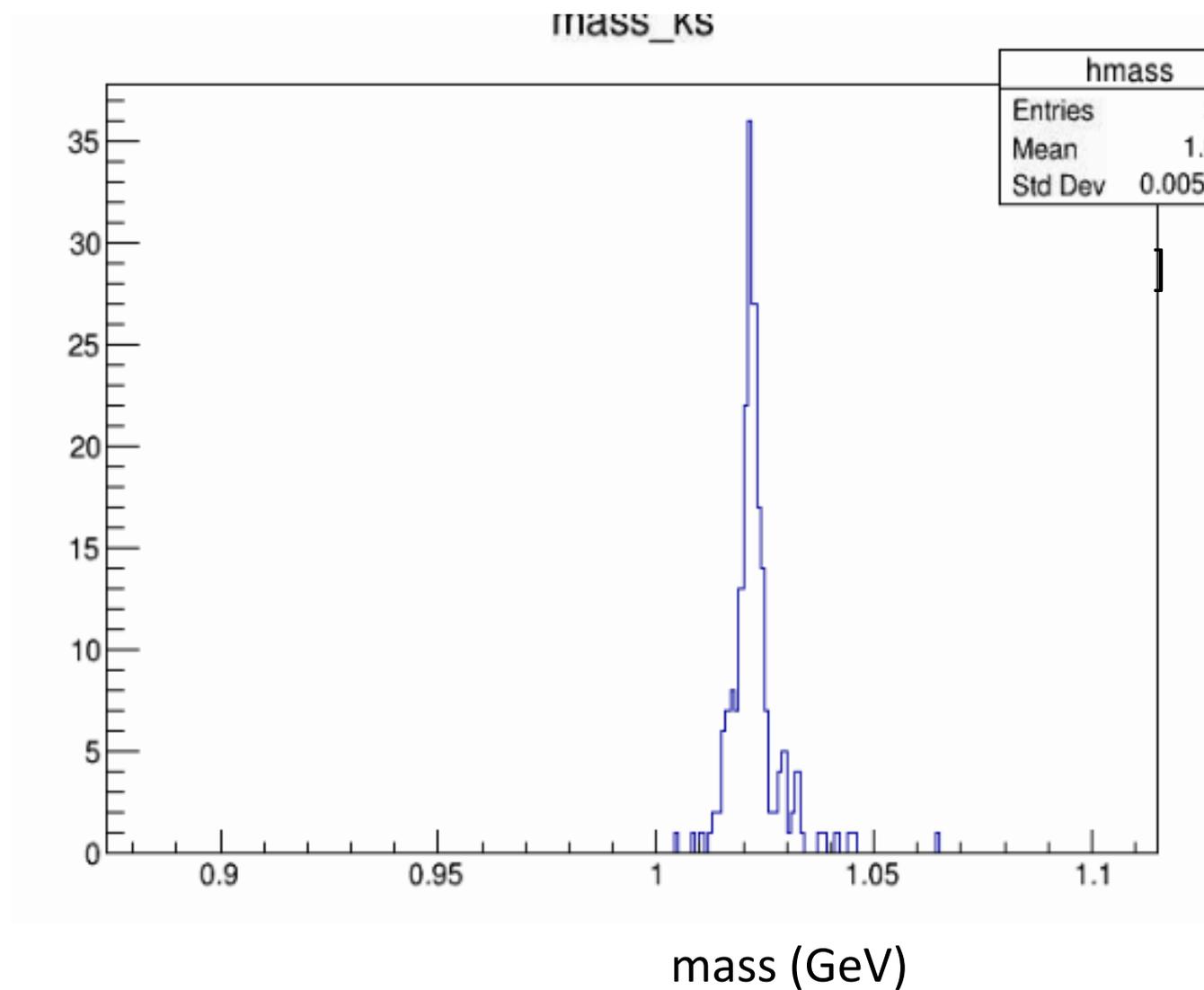
Q^2 Limits

- Last week main concern : for all events shown, it looks like scattered electron is too far backward (|pseudorapidity| ~> 5)

- I found I can input min and max Q2 .... just putting min as 0.2 (from ~$q_T/|k = 18| >= 1/\sinh\eta_{max}$)

- How about these limits?

default
Sartre
Q2 limits
(> 0.000)
possibly
low max
default

Sartre
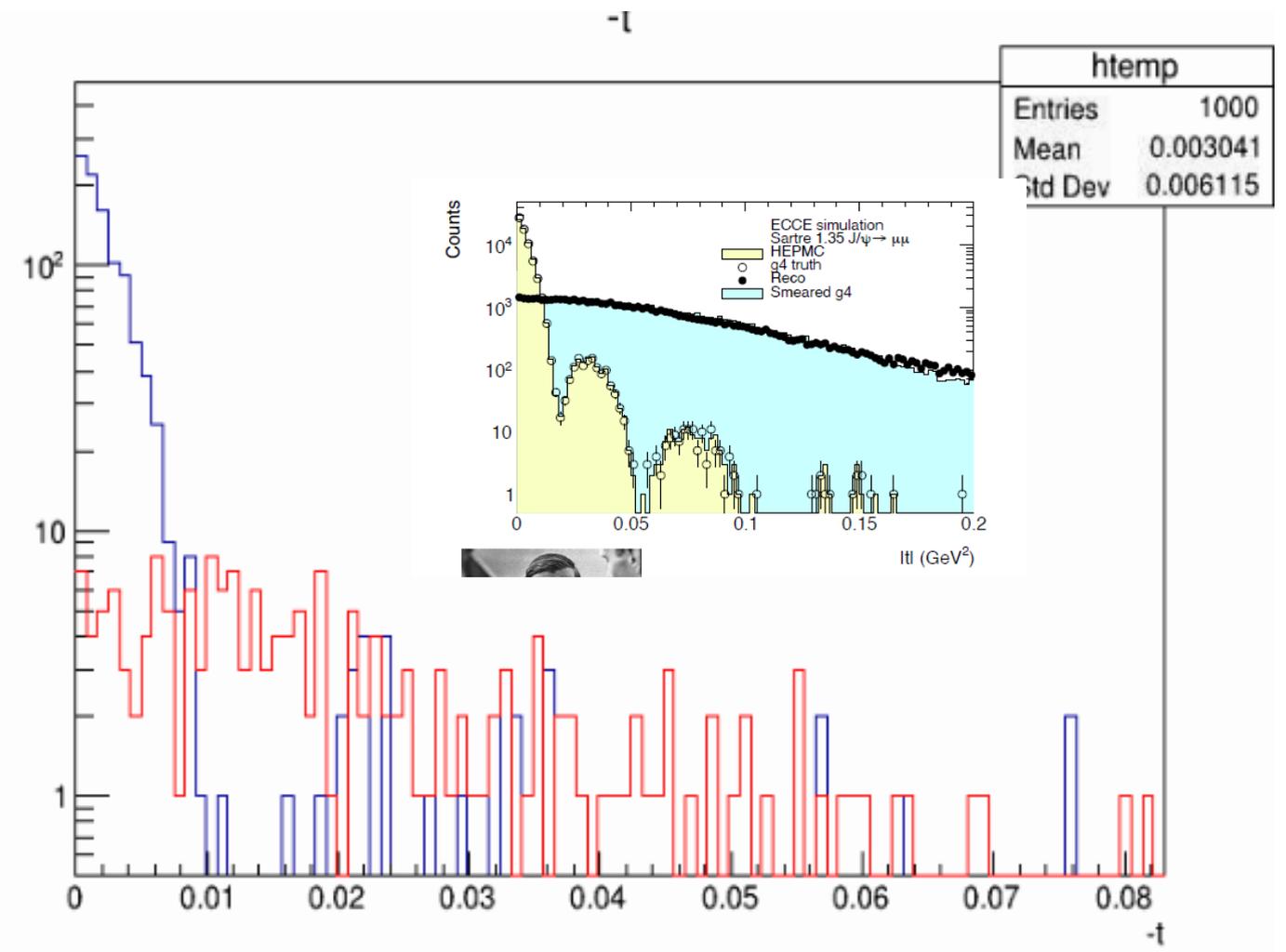Q2 limits
[0.2,10]

Phi Eta and Mass

- Mass of 2 Kaons

mass (GeV)
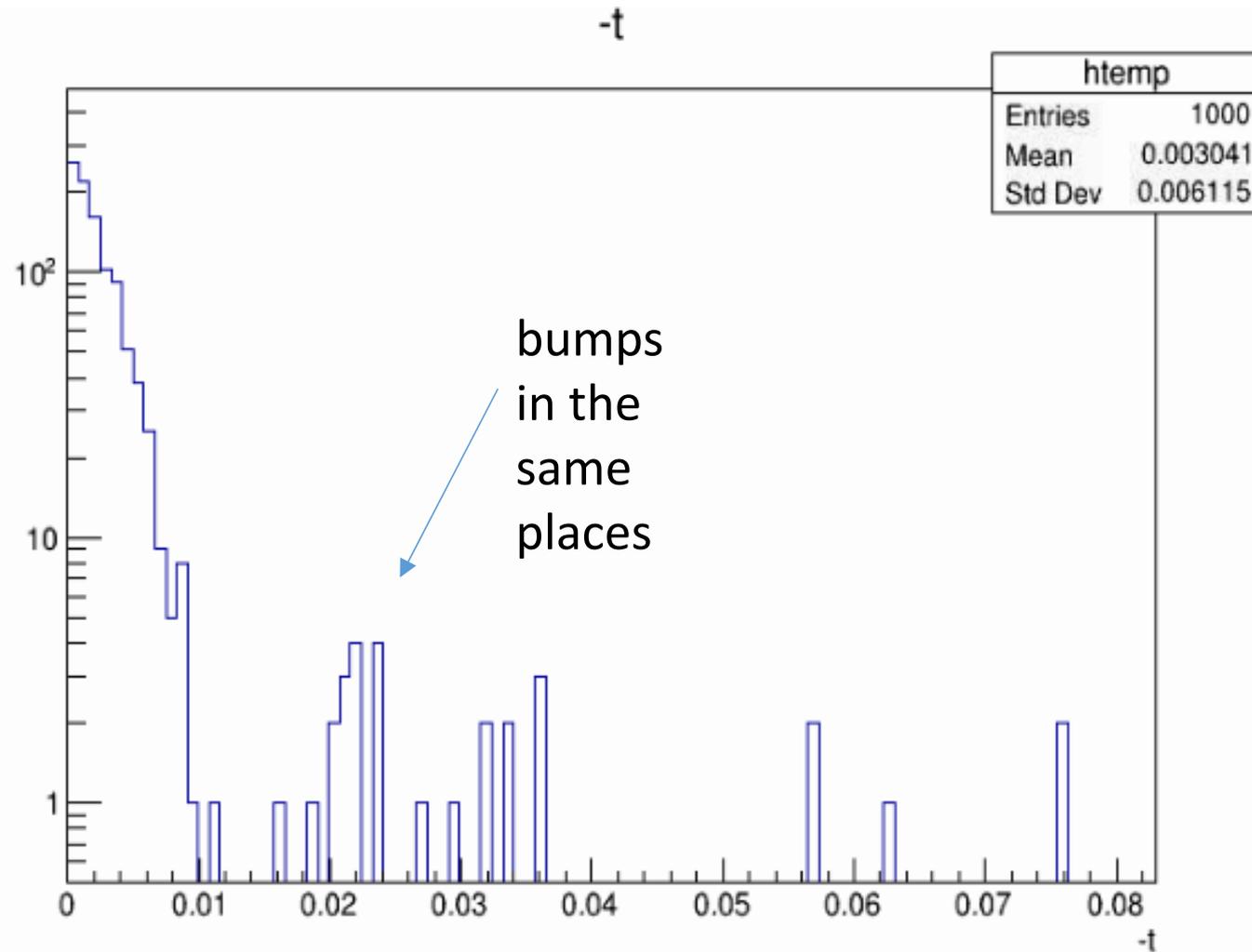
eta of Kaons

t distributions

- Left using pomeron 4-vector in event_tree
- Right (red) using truth electron info + phi --not tranverse components full t reco...
- To me looks pretty similar to Peter's J/Psi with much lower statistics

Other Updates

- Machinery done to split up jobs in whatever time sizes
- We are doing our own production right?
- Looks like dev is ongoing for IP8   currently using IP6 in Fun4all

- Background?