

17th MCnet meeting @ CERN

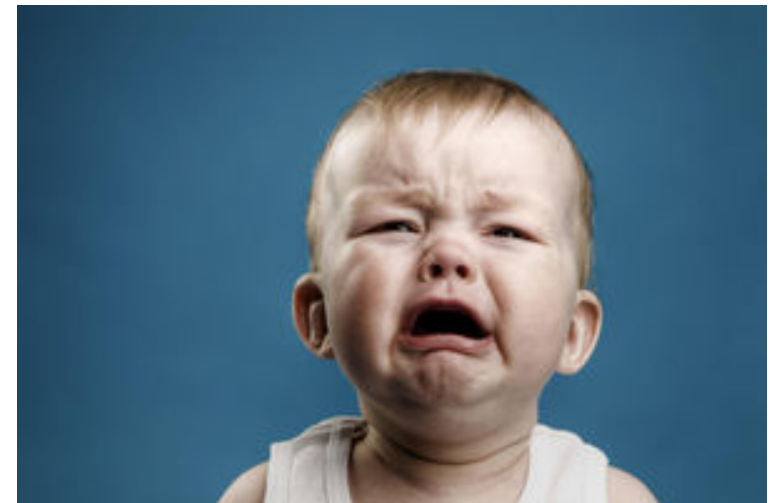
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Creating heavy ion events from pp events in a generator independent way



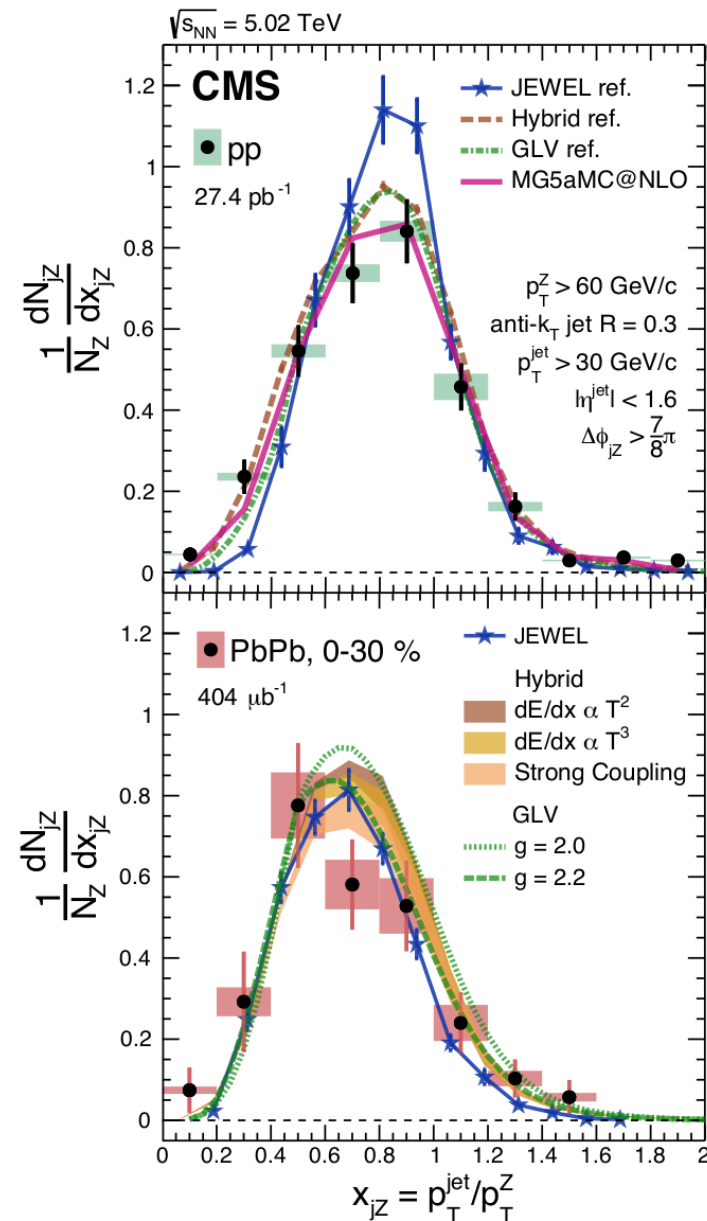
Tutorials without tears!

- Summer school coming up – tutorials can be painful.
- This year:
 - Tutorials should involve heavy ion physics
 - We will be in better time!
- Present the tutorial idea.
- A generator independent implementation of Angantyr.
(Bellm, Bierlich)

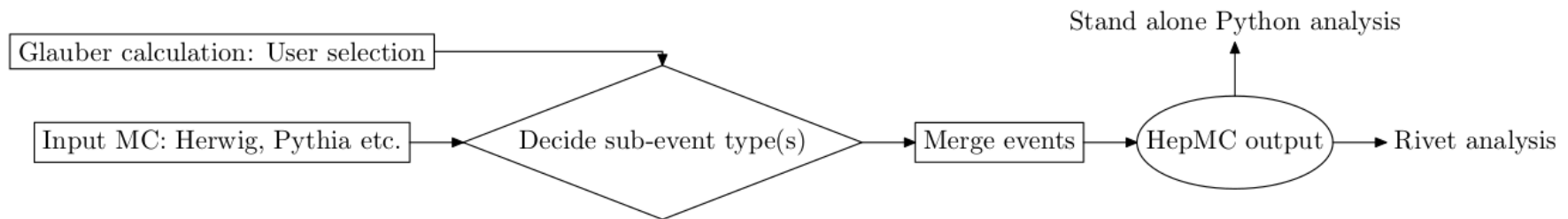


Jet studies in heavy ions

- Involves physics from all parts of our community.
- Sample analysis from CMS (1702.01060).
- Z+jets on a HI background.
- Used to probe energy loss in the medium.
- Background sim. can improve!

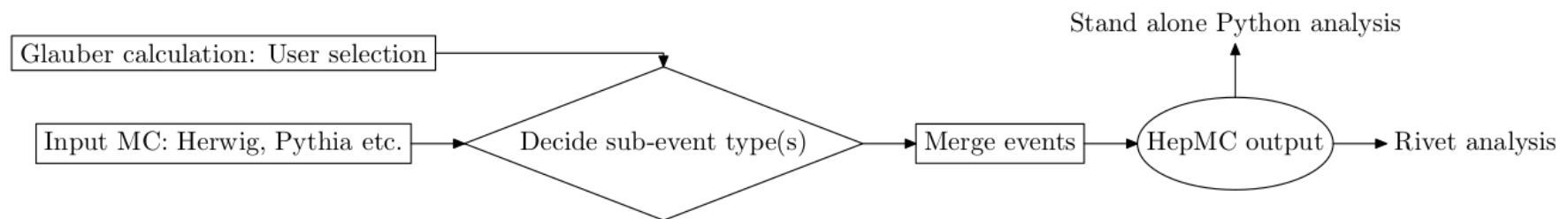


Introducing PISTA (Posterior Ion STacking)



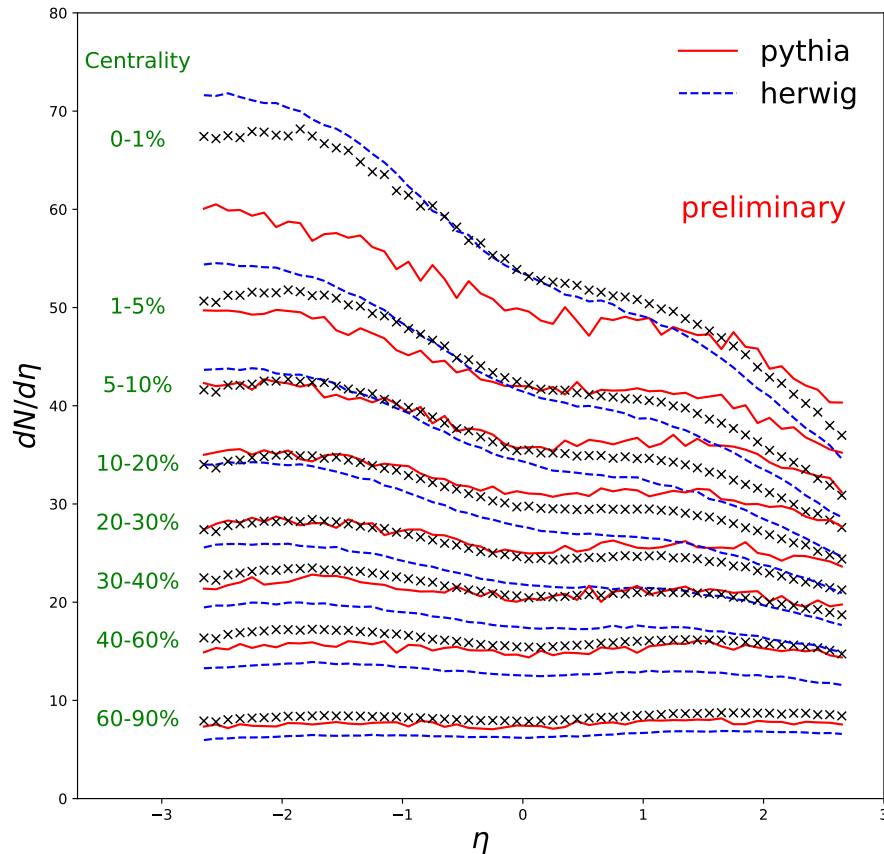
- Merge full, hadronized pp events.
- Will never be as precise as Angantyr...
- ...but more versatile.
- Can investigate generator differences.
- Even mix with in-medium generators like JEWEL.

Introducing PISTA (Posterior Ion STacking)



- Implemented in Python.
- Relies on HepMC interface in both ends.
- Easy to get “under the hood”.

Min bias results pA



Introduction
News
Heavy ion physics

p-Pb η -distribution

(a) Centrality-dependent η distribution, pPb, $\sqrt{s_{NN}} = 5$ TeV.

- ATLAS
- Pythia8/Angantyr (ΣE_{\perp}^{Pb} bins from data)
- Pythia8/Angantyr (generated centrality)

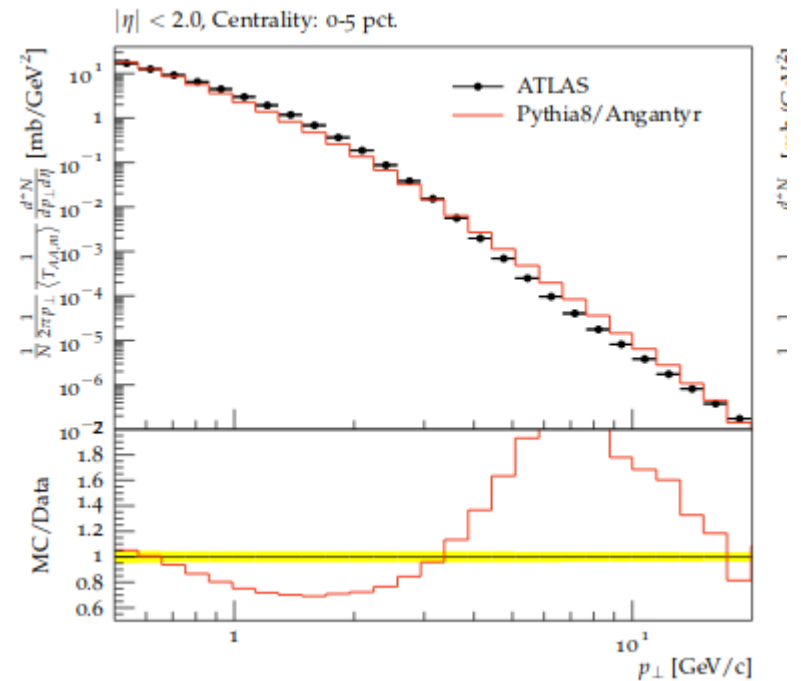
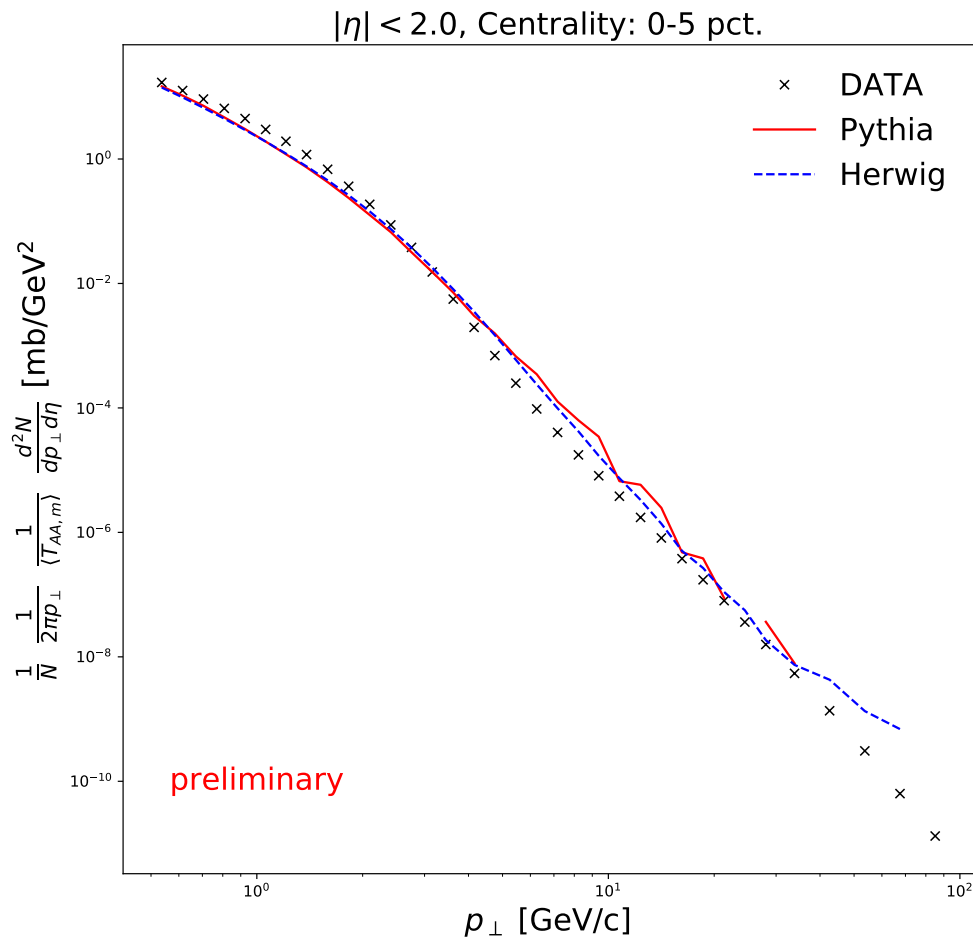
$(1/N_{ev}) dN_{ch}/d\eta$

η

Event Generators 13 Leif Lönnblad

Lund University

Min bias results AA



MCnet school tutorial

- Split students into mixed groups.
- Day 1: Usual event generator introduction
- Day 2a: pp generator → pA and AA min bias. Play with parameters.
- Day 2b: State of the art Z+jets in pp.
- Day 3: Putting it all together: Z+jets in AA background. Let the students write/modify the Rivet analysis.