Update on light nucleus analyses

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Outline:
• Status of corrections
• 19.6 GeV
Three corrections needed:
1. Absorption: “done”
2. pbar feed-down: AMPT & UrQMD simulations still in progress
3. Reconstruction efficiency (still need embedding, no estimate)

re: 1 & 2: see also http://wjllope.rice.edu/d/protected/LFspectra_20110324.pdf

basic idea
- generate full events using a model
- starsim…
- bfc…
- use association maker branches to match reconstructed tracks to evgen tracks
- calculate probability that pbars from hyperon decay are measured as primaries

- now running minbias 200 GeV Au+Au
- need to do other energies as well…

- now also comparing/scaling simulated spectra to published results
AFAIK no phenix hyperon spectra exist.
Here: UrQMD 3.3p1
also using Hijing
and pythia for p+p

Scaled to match published x-secs…
from simulation directly

...Scaled results from urqmd and hijing
do not match (?!?)
...I need to understand this…
picoDSTs generated 36 hours ago from data61, data90, and data05
~1.2 M events total
~350k survive the good event cuts
Lots more data coming soon!

Zvtx < 50cm
Rvtx < 1.2cm
Ntofhits > 0

mb1-fast (3 trig IDs)
.OR.
mb1-slow (3 trig IDs)

using Chris Anson’s centrality windows…

bunchID shifts < 0.2% (consistent with no corruption)
light nucleus update

19.6 GeV, PID

“dE/dx minus TOF”

“dE/dx plus TOF”

high efficiency, low mom’n reach

lower efficiency, high mom’n reach
decent number of d-bars
no significant t-bar signal
(but more events coming!)
Antiparticle $B_2$ vs $p_T/A$ and root-$s$
light nucleus update

P_{T}-averaged Source Radius vs root-s

\[ R_g \text{ vs } \sqrt{s_{NN}}, \ P_T/A > 0.6 \text{GeV/c} \]

interesting “maximum”…

let’s see how it looks w/ more evts

for non-central:

radius essentially root-s independent