Subject: UrQMDSmm and FLUKA
Posted by Olaf Hartmann on Fri, 12 Feb 2010 10:56:44 GMT
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Hi all,

finally I started to look into the potential use of FLUKA as an event generator for PANDARoot (this is at the moment a "private study" because of the FLUKA license).
The first test case is the reaction of a 3.5 GeV/c pbar on carbon-12. I compare FLUKA (using an extended target) to UrQMDSmmGen. "Thin target" means a carbon wire of 100µm diameter.

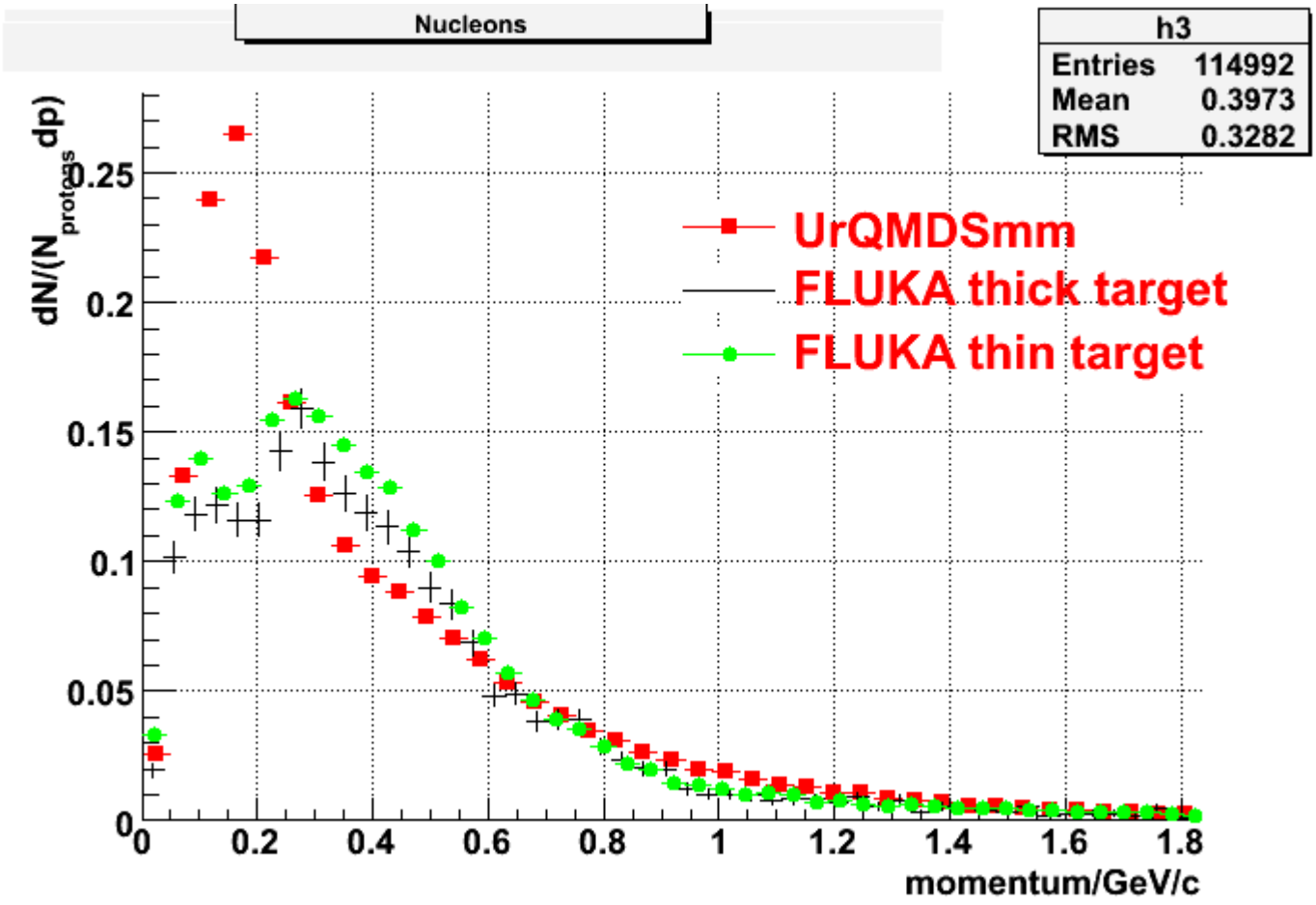
Exemplarily I show the momentum distribution of the nucleons (p+n).
The normalization is done here using the total number of protons.

The figures show the lower and the high momentum range. I'll further iterate to see if the "dip" in FLUKA between 100 and 200 MeV/c is due absorption in the target (which UrQMD does not have). However the difference between thick and thin target does not look that prominent.
In contrast to UrQMDSmm, FLUKA has also antiprotons in the final state which underwent scattering (n.b. those who don't interact at all are discarded).
A more detailed report will follow latest at the coll.meeting.

Cheers
Olaf.

File Attachments

1) nucleon_momenta.png, downloaded 907 times



2) nucleon_momenta_high.png, downloaded 984 times