
Subject: E/p vs p + energy and momentum
Posted by [Dmitry Khaneft](#) on Wed, 25 Jan 2012 10:03:30 GMT
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Dear all,

as we agreed on the last evo meeting I attach plots with E/p vs p together with EMC energy and momentum.

pandaroot version = nov11
external packages = may11

emc_raw_lab_3.3_0.0e.eps - EMC energy raw
mom_lab_3.3_0.0e.eps - momentum
p_versus_ep_RAW_3.3_0.0e.eps - E/p vs p (EMC energy raw)

Cheers,
Dmitry

File Attachments

- 1) [emc_raw_lab_3.3_0.0e.eps](#), downloaded 474 times
 - 2) [mom_lab_3.3_0.0e.eps](#), downloaded 462 times
 - 3) [p_versus_ep_RAW_3.3_0.0e.eps](#), downloaded 484 times
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Subject: Re: E/p vs p + energy and momentum
Posted by [Johan Messchendorp](#) on Wed, 25 Jan 2012 10:28:49 GMT
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Hi,

Could you also plot Pmc vs (Eraw-Pmc) and Pmc vs (Prec-Pmc)?

Thanks,

Johan.

Subject: Re: E/p vs p + energy and momentum
Posted by [Gianluigi Boca](#) on Wed, 25 Jan 2012 12:14:37 GMT
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Dmitry Khaneft wrote on Wed, 25 January 2012 11:03Dear all,

as we agreed on the last evo meeting I attach plots with E/p vs p together with EMC energy and momentum.

pandaroot version = nov11
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emc_raw_lab_3.3_0.0e.eps - EMC energy raw

mom_lab_3.3_0.0e.eps - momentum
p_versus_ep_RAW_3.3_0.0e.eps - E/p vs p (EMC energy raw)

Cheers,
Dmitry

dear Dmitry,
do you understand why the Emc energy plot (emc_raw_lab_3.3_0.0e.eps) has a dip at 3 GeV
? And do you understand that very peculiar momentum distribution (mom_lab_3.3_0.0e.eps) ?
Gianluigi

Subject: Re: E/p vs p + energy and momentum
Posted by [Dmitry Khaneft](#) on Mon, 30 Jan 2012 16:17:26 GMT
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Gianluigi Boca wrote on Wed, 25 January 2012 13:14
dear Dmitry,
do you understand why the Emc energy plot (emc_raw_lab_3.3_0.0e.eps) has a dip at 3 GeV
? And do you understand that very peculiar momentum distribution (mom_lab_3.3_0.0e.eps) ?
Gianluigi
Dear Gianluigi,

sorry for the late answer.

This energy drop on the emc_raw_lab_3.3_0.0e.eps plots is explained by the transition from
the barrel to forward endcap. Below you will find 3 plots for the backward/forward endcaps and
for the barrel.

emc_raw_ba_lab_3.3_0.0e.eps - EMC barrel
emc_raw_bw_lab_3.3_0.0e.eps - EMC backward endcap
emc_raw_fw_lab_3.3_0.0e.eps - EMC forward endcap

As for momentum, I think it is a consequences of momentum distribution of initial electrons and
positrons (see mom_neg_lab_3.3_0.0e.eps)

Dmitry

File Attachments

- 1) [emc_raw_ba_lab_3.3_0.0e.eps](#), downloaded 413 times
 - 2) [emc_raw_bw_lab_3.3_0.0e.eps](#), downloaded 437 times
 - 3) [emc_raw_fw_lab_3.3_0.0e.eps](#), downloaded 413 times
 - 4) [mom_neg_lab_3.3_0.0e.eps](#), downloaded 398 times
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Subject: Re: E/p vs p + energy and momentum
Posted by [Dmitry Khaneft](#) on Tue, 31 Jan 2012 13:08:24 GMT
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Dear all,

I repeat the simulation w/o ideal hypothesis i.e. "recoKalman->SetIdealHyp(kTRUE);" was commented out. As one can see the E/p distribution is much narrower then before.

Can someone explain a kind of line at p=1 GeV on CAL plot where RAW looks pretty smooth?

Cheers,
Dmitry

File Attachments

- 1) [p_versus_ep_CAL_3.3_0.0e.eps](#), downloaded 438 times
 - 2) [p_versus_ep_RAW_3.3_0.0e.eps](#), downloaded 488 times
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