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 310 times
2) mom_lab_3.3_0.0e.eps, downloaded 307 times
3) p_versus_ep_RAW_3.3_0.0e.eps, downloaded 319 times

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
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

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 263 times
2) emc_raw_bw_lab_3.3_0.0e.eps, downloaded 281 times
3) emc_raw_fw_lab_3.3_0.0e.eps, downloaded 257 times
4) mom_neg_lab_3.3_0.0e.eps, downloaded 260 times

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 290 times
2) p_versus_ep_RAW_3.3_0.0e.eps, downloaded 321 times