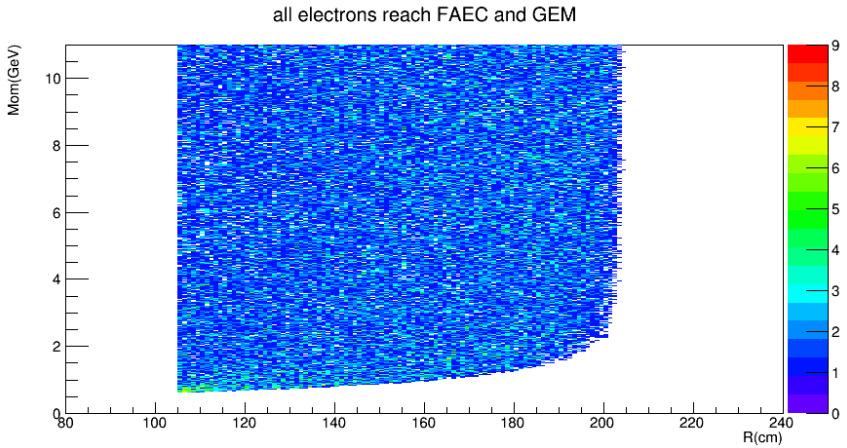
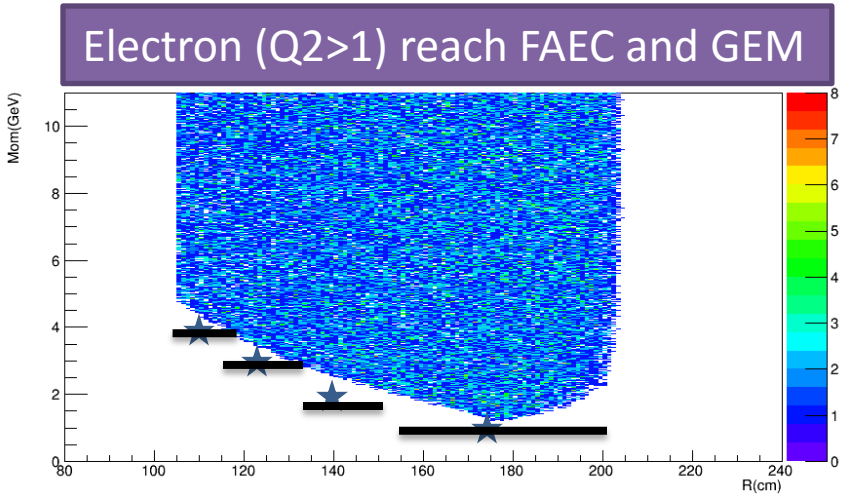
SIDIS He3 trigger update
EC cut test

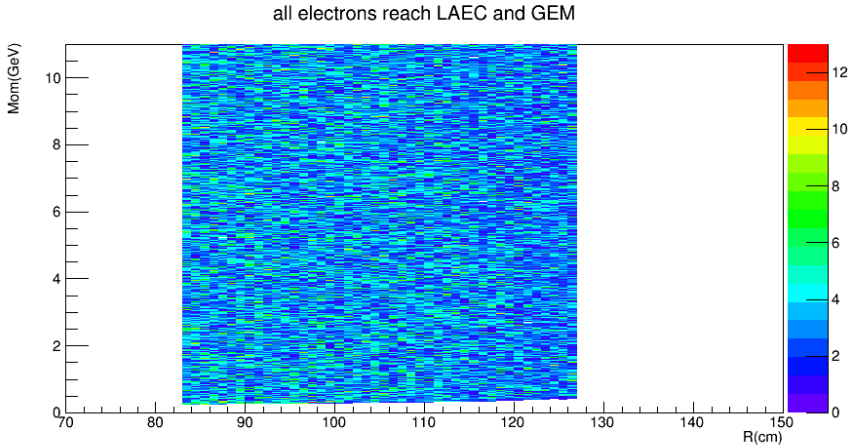
Zhiwen Zhao

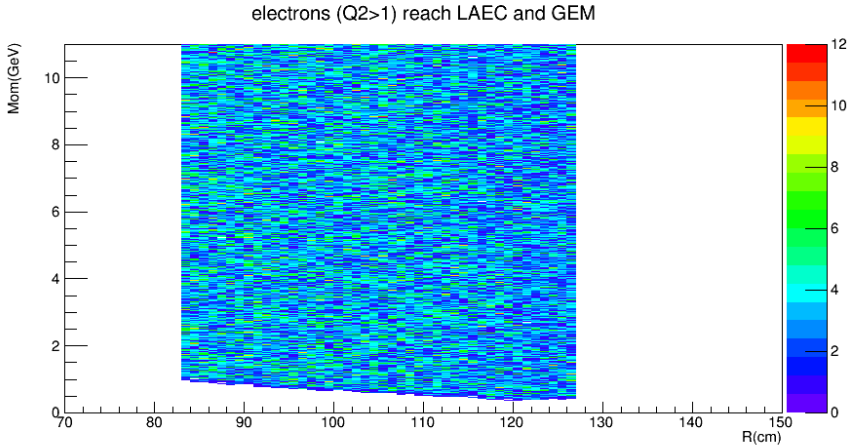
2016/12/6

Cut Q2>1

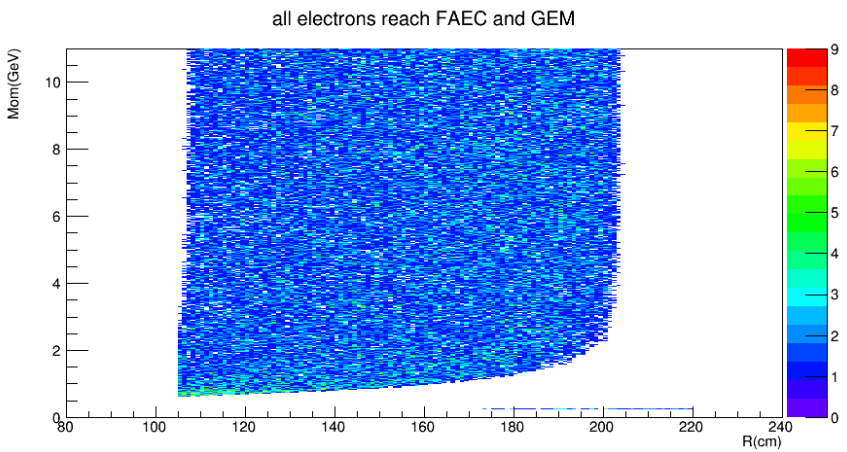

all electrons reach FAEC and GEM
Mom(GeV)
R(cm)


Electron (Q2>1) reach FAEC and GEM
Mom(GeV)
R(cm)

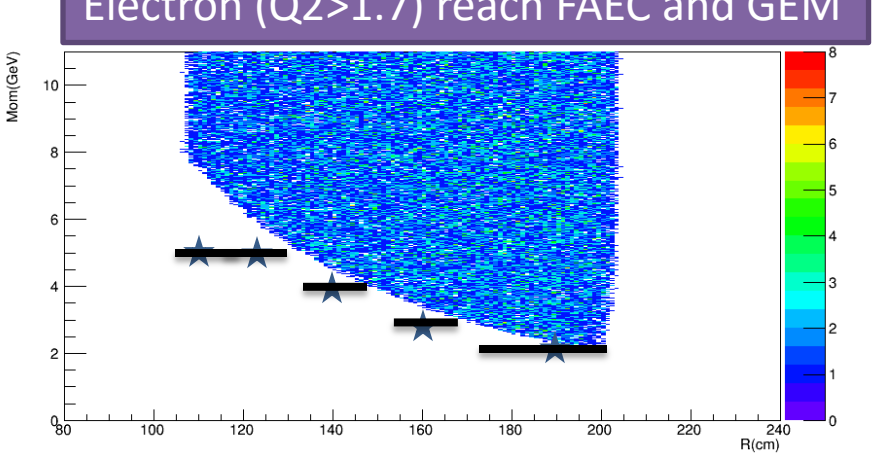

all electrons reach LAEC and GEM
Mom(GeV)
R(cm)

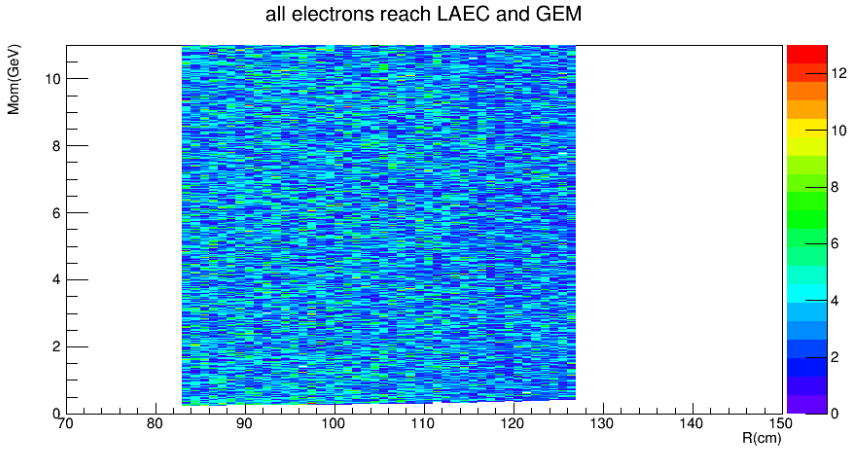

electrons (Q2>1) reach LAEC and GEM
Mom(GeV)
R(cm)

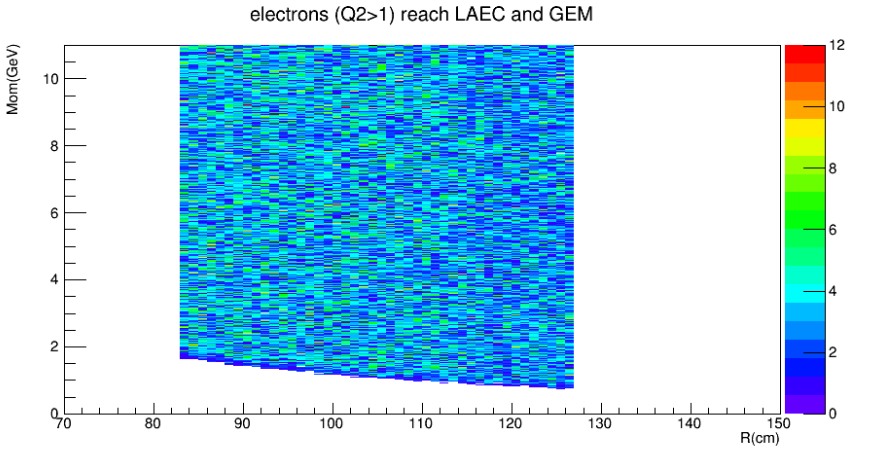
cut “P>5GeV when theta<10deg, Q2>1.7GeV when theta>10deg”



Electron (Q2>1.7) reach FAEC and GEM

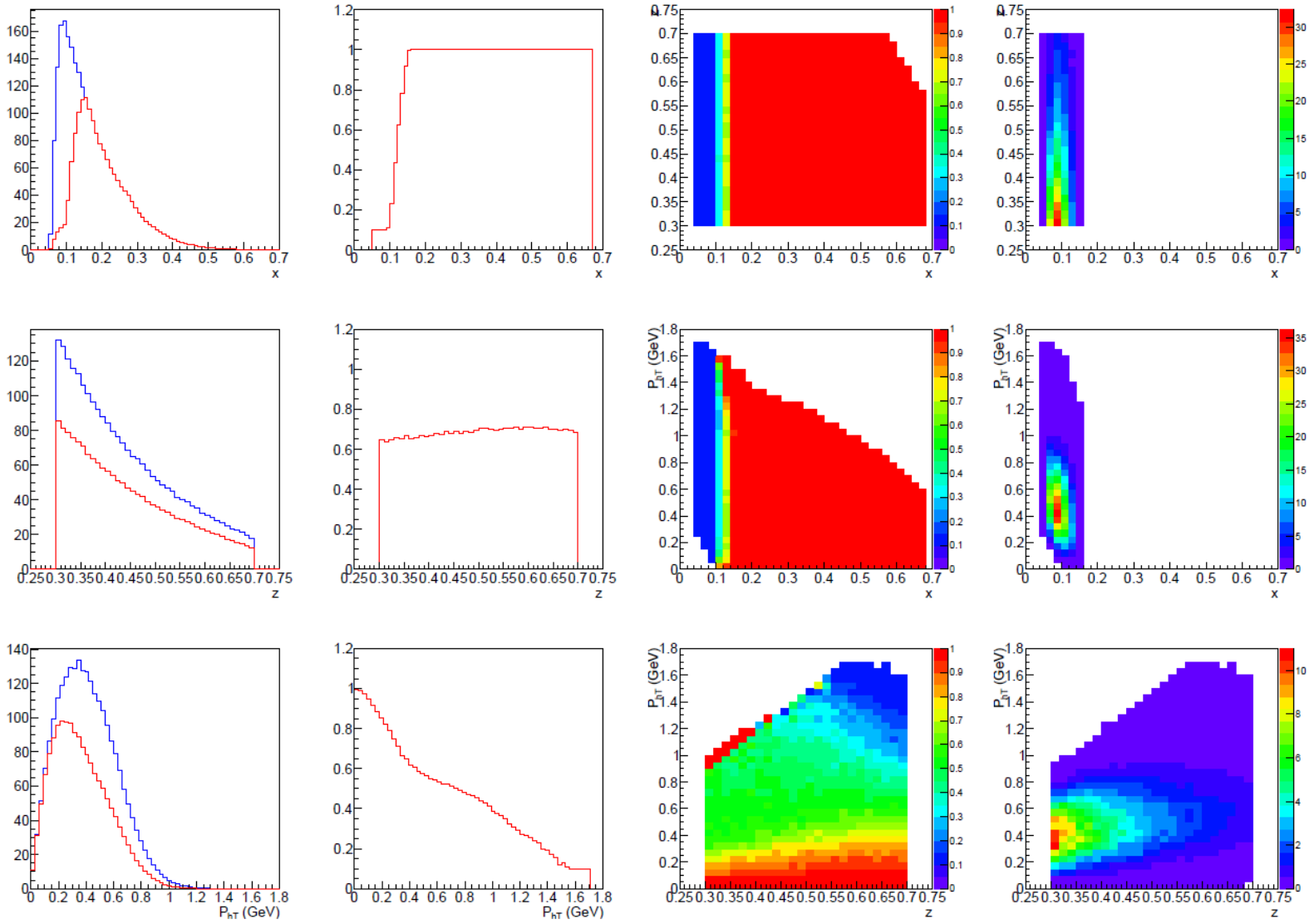






SIDIS single electron trigger rate change between cut “Q2>1” and cut “P>5GeV when theta<10deg, Q2>1.7GeV when theta>10deg”

electron trigger rate (kHz): source e- 58 -> 35, source hadron 47->6



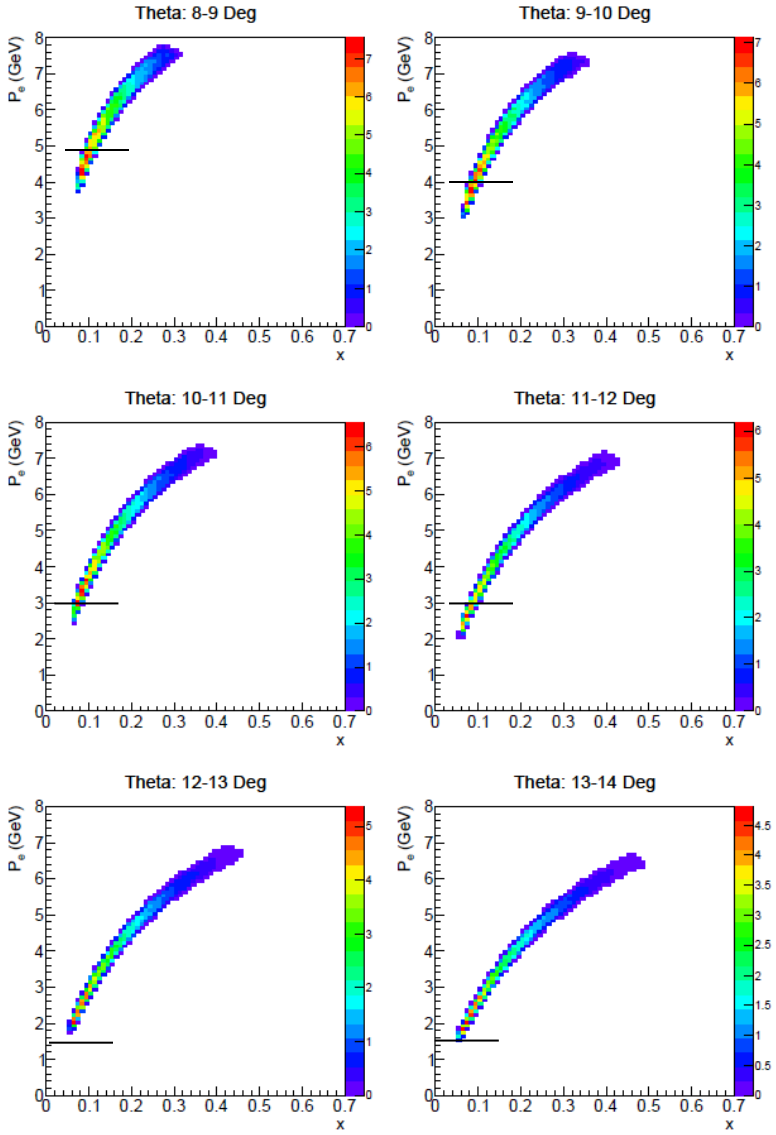
SIDIS e- distribution

How the plots is drawn

- Both SIDIS e- and pion accepted,
- Q2 > 1.0
- W > 2.3
- W' > 1.6
- 0.3 < z < 0.7

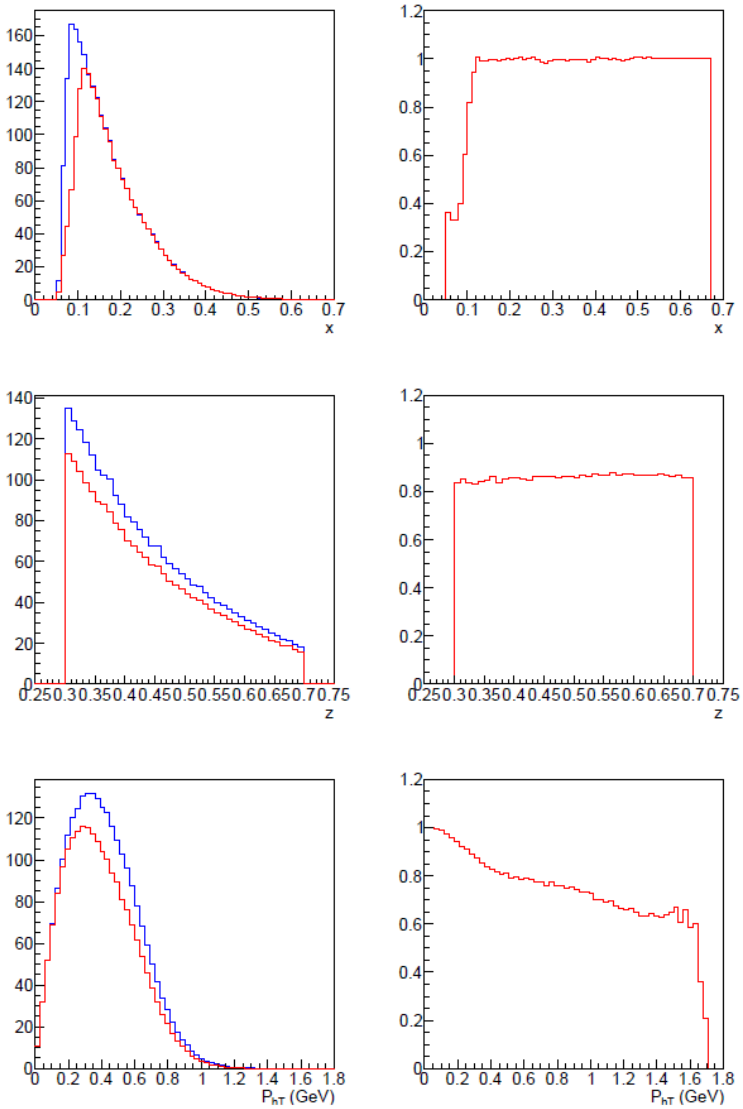
Possible EC trigger
cut “5-4-3-3-1.5-1.5-1”:

- P>5, at theta 8-9 deg, R_FAEC 105-120 cm
- P>4, at theta 9-10 deg, R_FAEC 120-135 cm
- P>4, at theta 10-11 deg, R_FAEC 135-149 cm
- P>4, at theta 11-12 deg, R_FAEC 149-163 cm
- P>4, at theta 12-13 deg, R_FAEC 163-177 cm
- P>4, at theta 13-14 deg, R_FAEC 177-191 cm
- P>4, at theta 14-15 deg, R_FAEC 191-235 cm



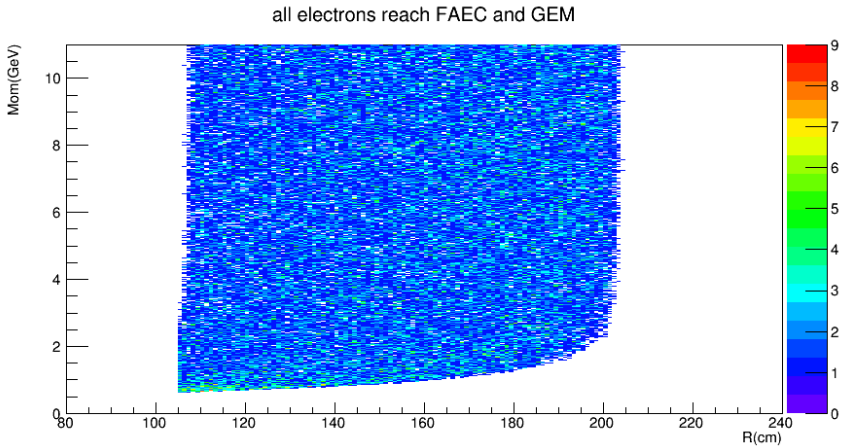
SIDIS single electron trigger rate change between cut “Q2>1” and cut “5-4-3-3-1.5-1.5-1”

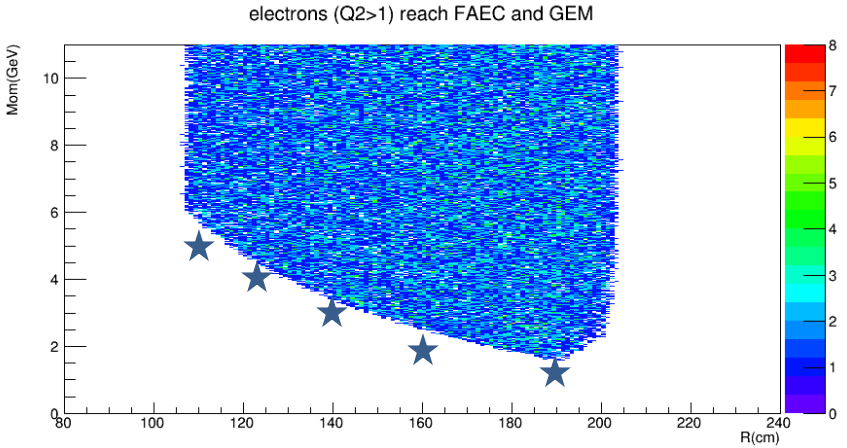
FA electron trigger rate (kHz): source e- 58 -> 41, source hadron 47->16

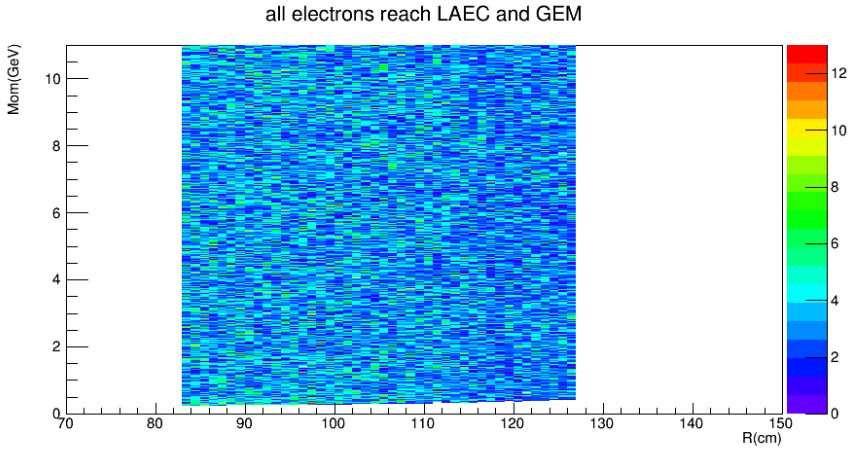


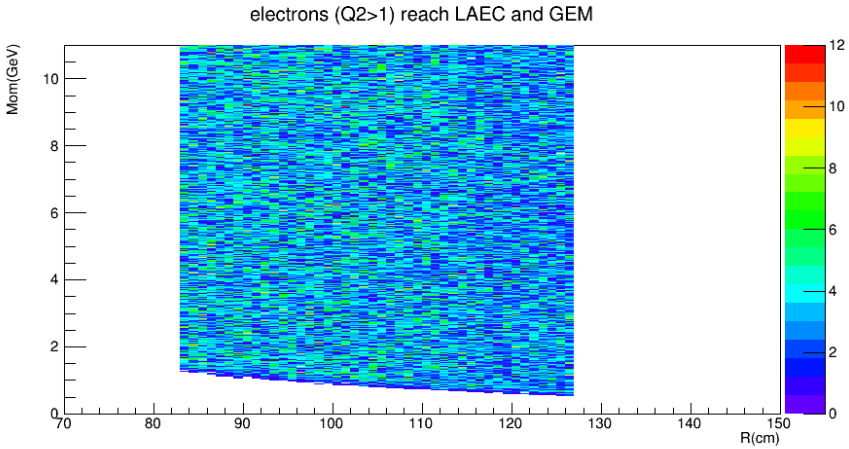
backup

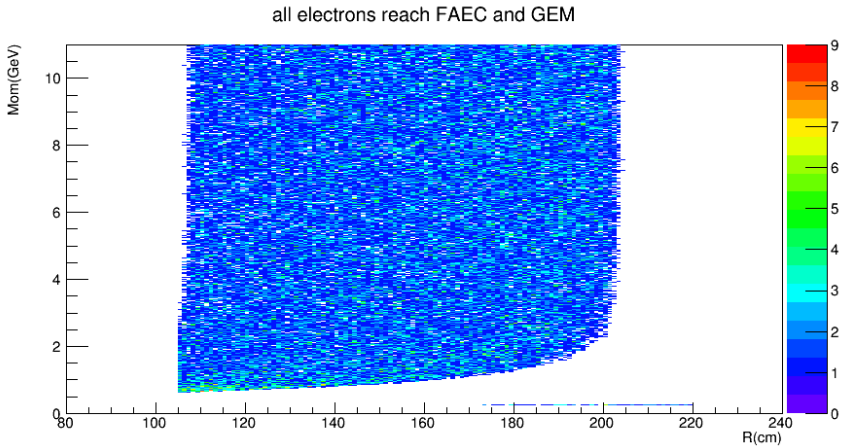
Cut Q2>1.3

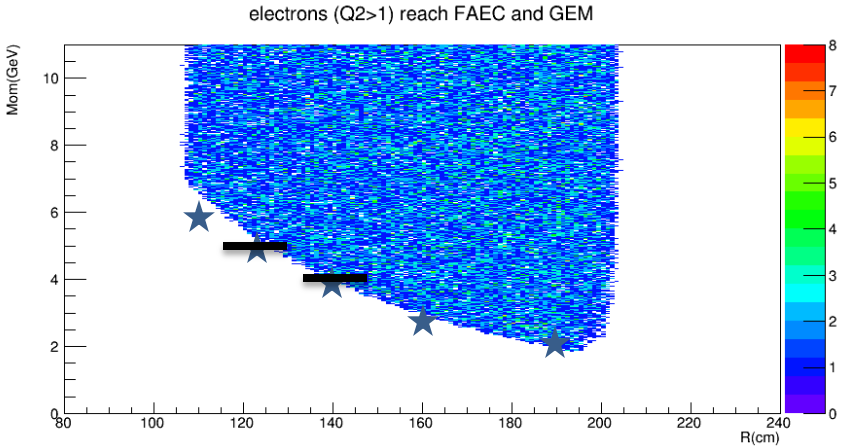

all electrons reach FAEC and GEM
Mom(GeV)
R(cm)

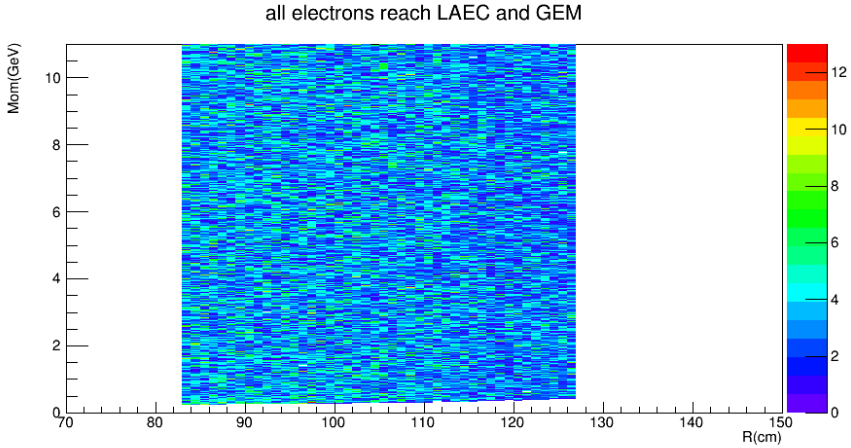

electrons (Q2>1) reach FAEC and GEM
Mom(GeV)
R(cm)

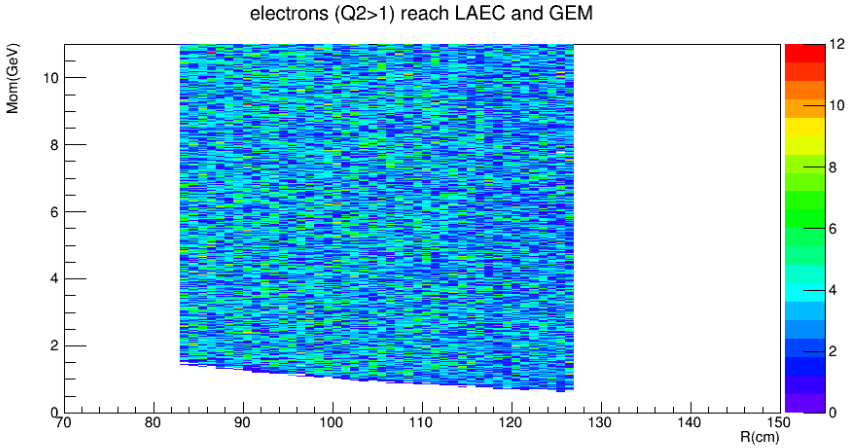

all electrons reach LAEC and GEM
Mom(GeV)
R(cm)


electrons (Q2>1) reach LAEC and GEM
Mom(GeV)
R(cm)


all electrons reach FAEC and GEM
Mom(GeV)
R(cm)


electrons (Q2>1) reach FAEC and GEM
Mom(GeV)
R(cm)


all electrons reach LAEC and GEM
Mom(GeV)
R(cm)


electrons (Q2>1) reach LAEC and GEM
Mom(GeV)
R(cm)