Physics Variables

Note: Cut
[DBB_evtypebits&(1<<3)&& DBB_edtpl[0]==0 && fabs(exL_ph)<=0.030 && fabs(exL_th)<=0.060 && fabs(rpl_z)<=0.075 && (L_prl1_e*0.93+L_prl2_e*1.13)>2700 && L_tr_n==1 && BB_tr_n>0]

&& graphic cut E_vs_p and -1<=CT<=6

Only include fullhit and parthitE from the CT distribution

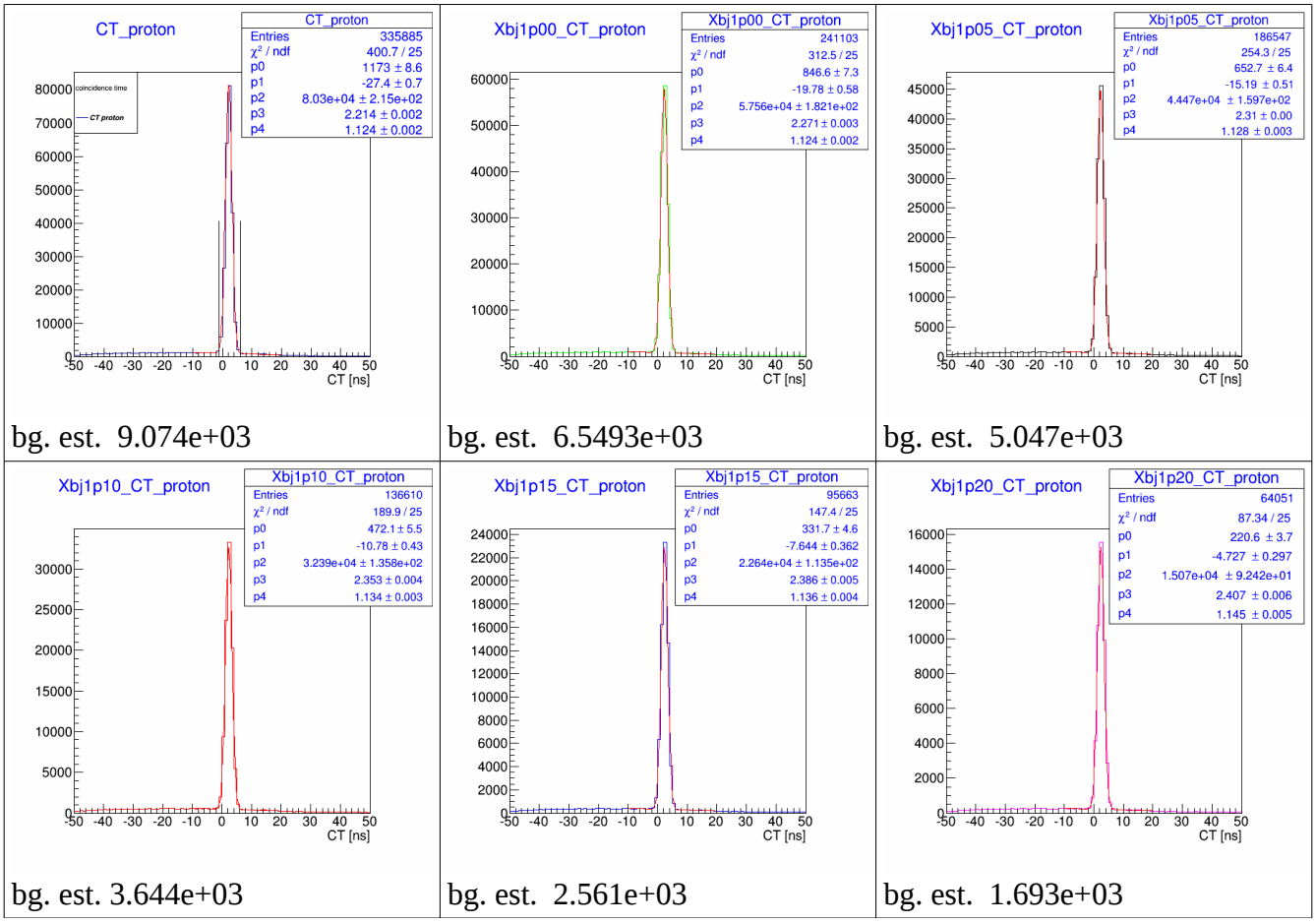

Figure 1: CT with Cut area

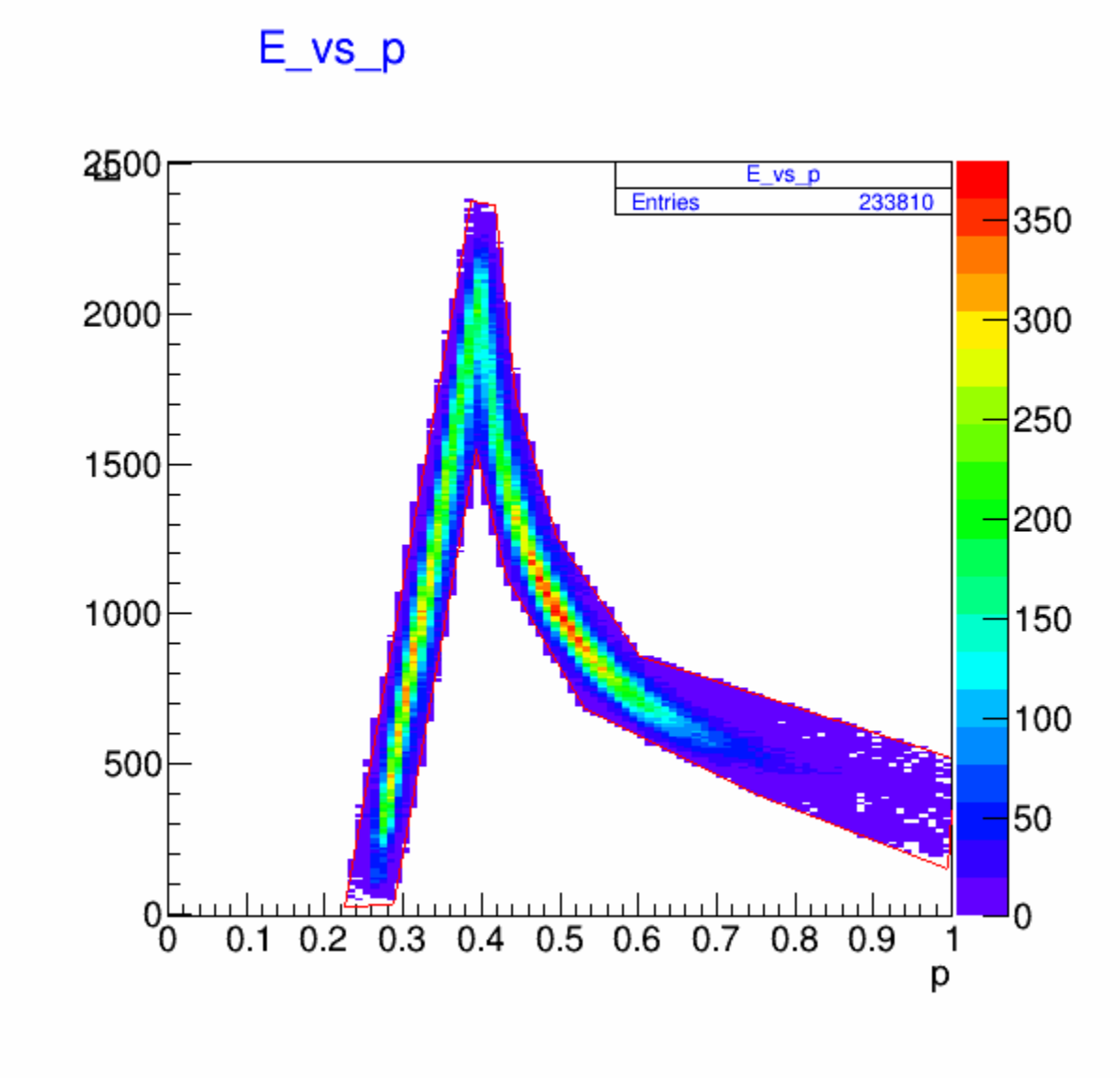

Figure 2: E vs p after proton PID and CT

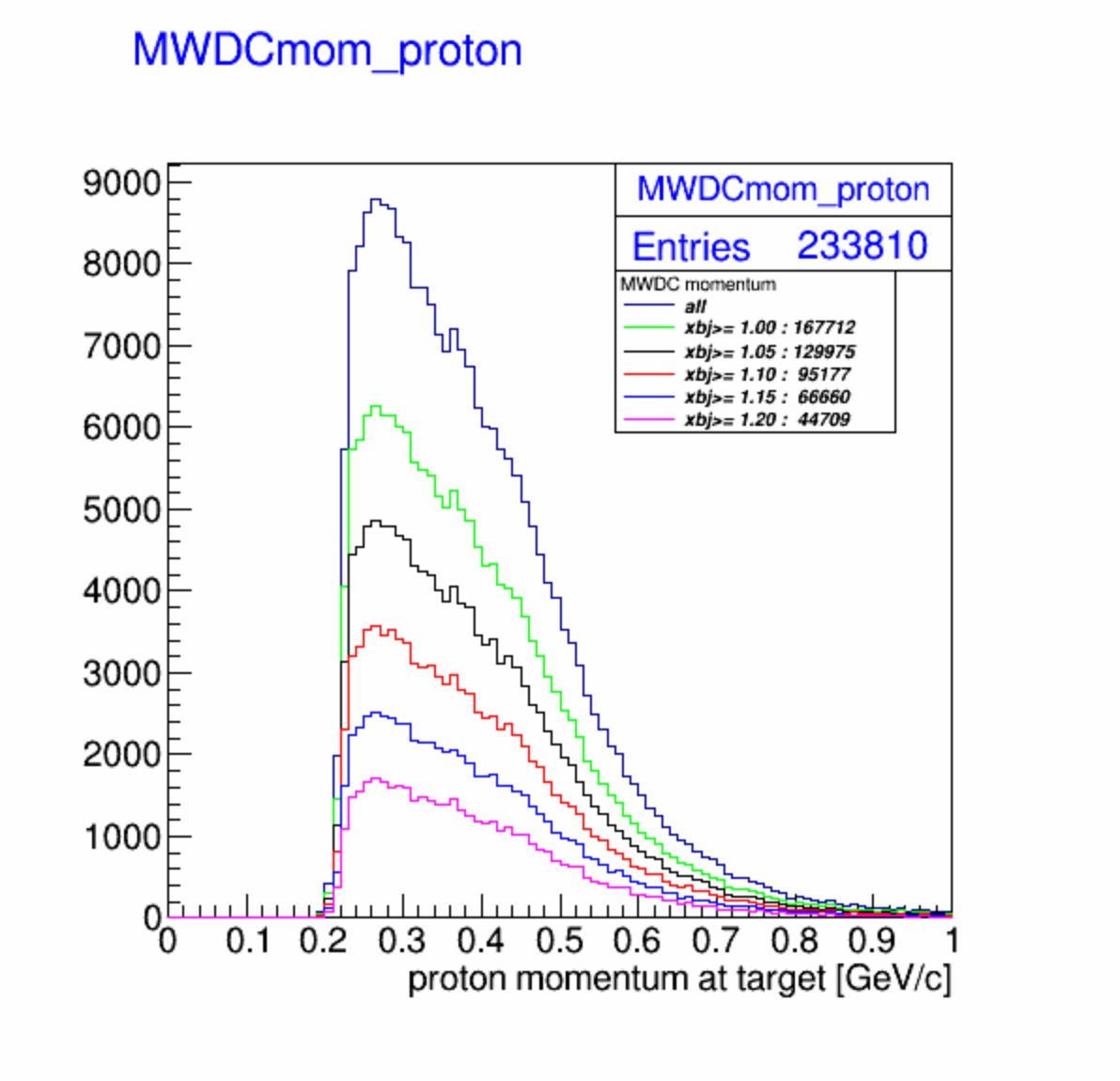

Figure 3.1: proton momentum at MWDC

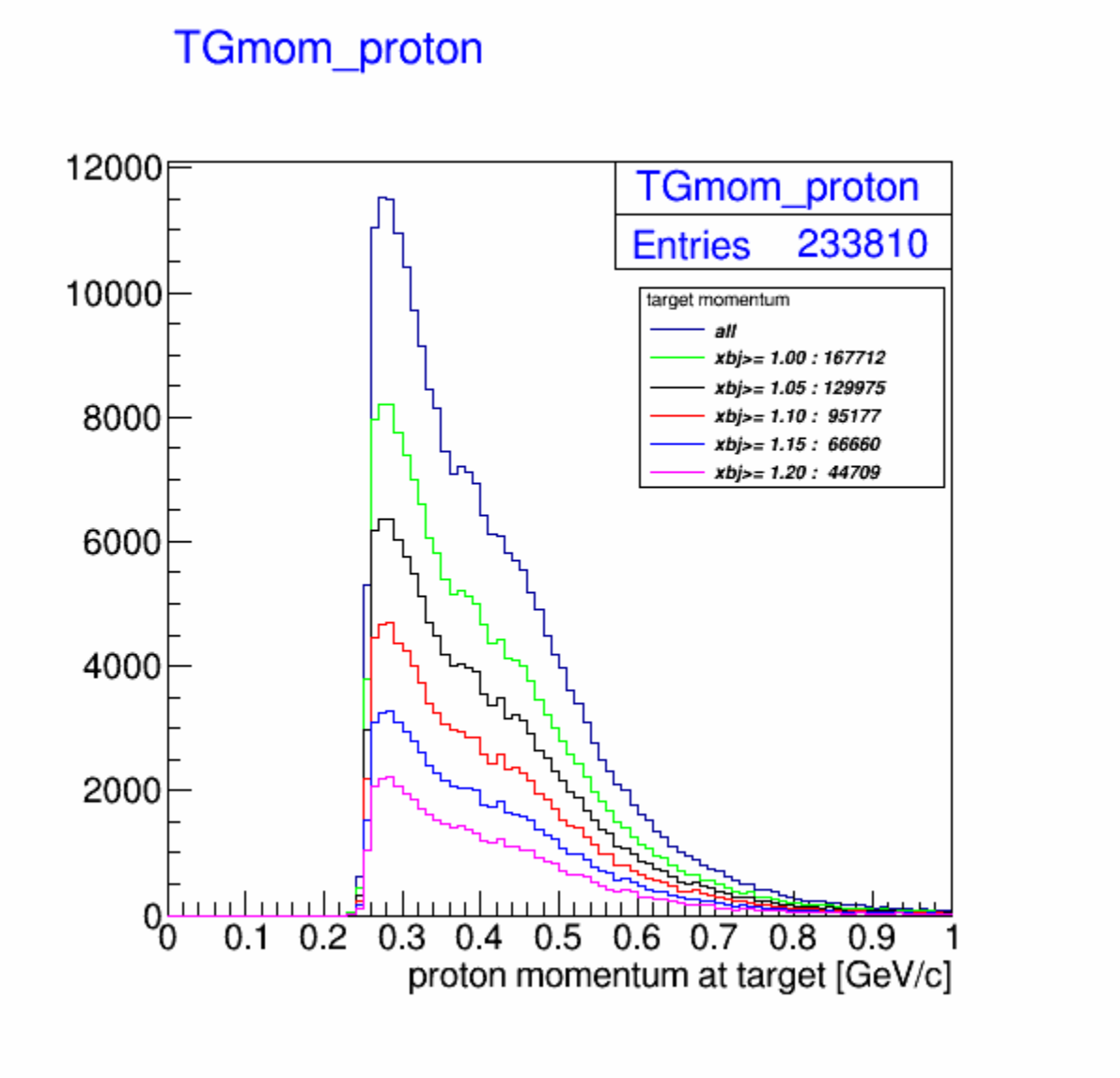

Figure 3.2: proton momentum at reaction target

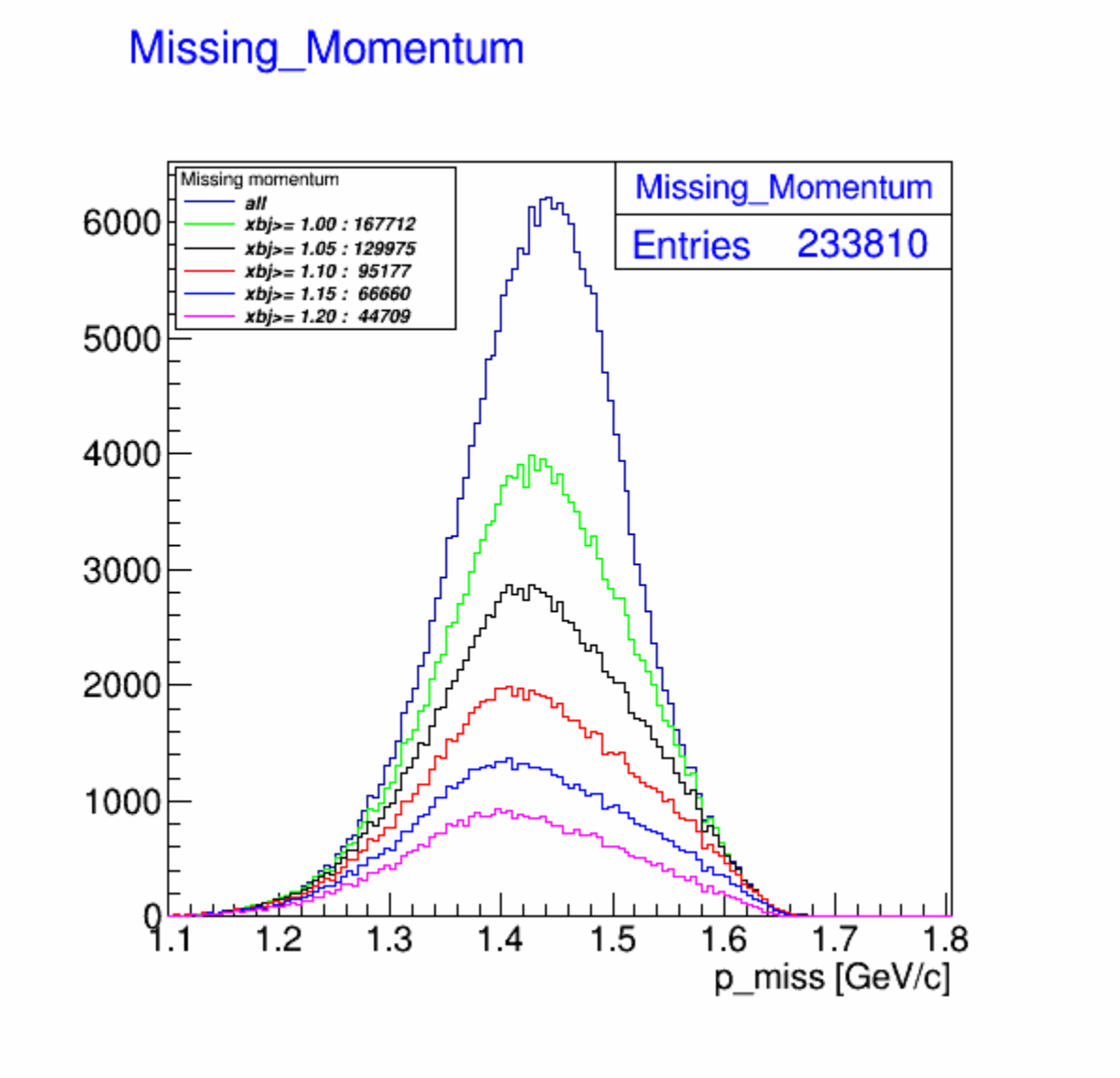

Figure 4.1 : missing momentum: defined as p_miss = q – proton_p

If q hit one of the NN-pair with center of mass momentum ~ 0, the initial momentum of the kicked-forward nucleon is = – backward-dectected proton momentum. Then the forward nucleon momentum would be q+(-p) = q-p = p_miss.

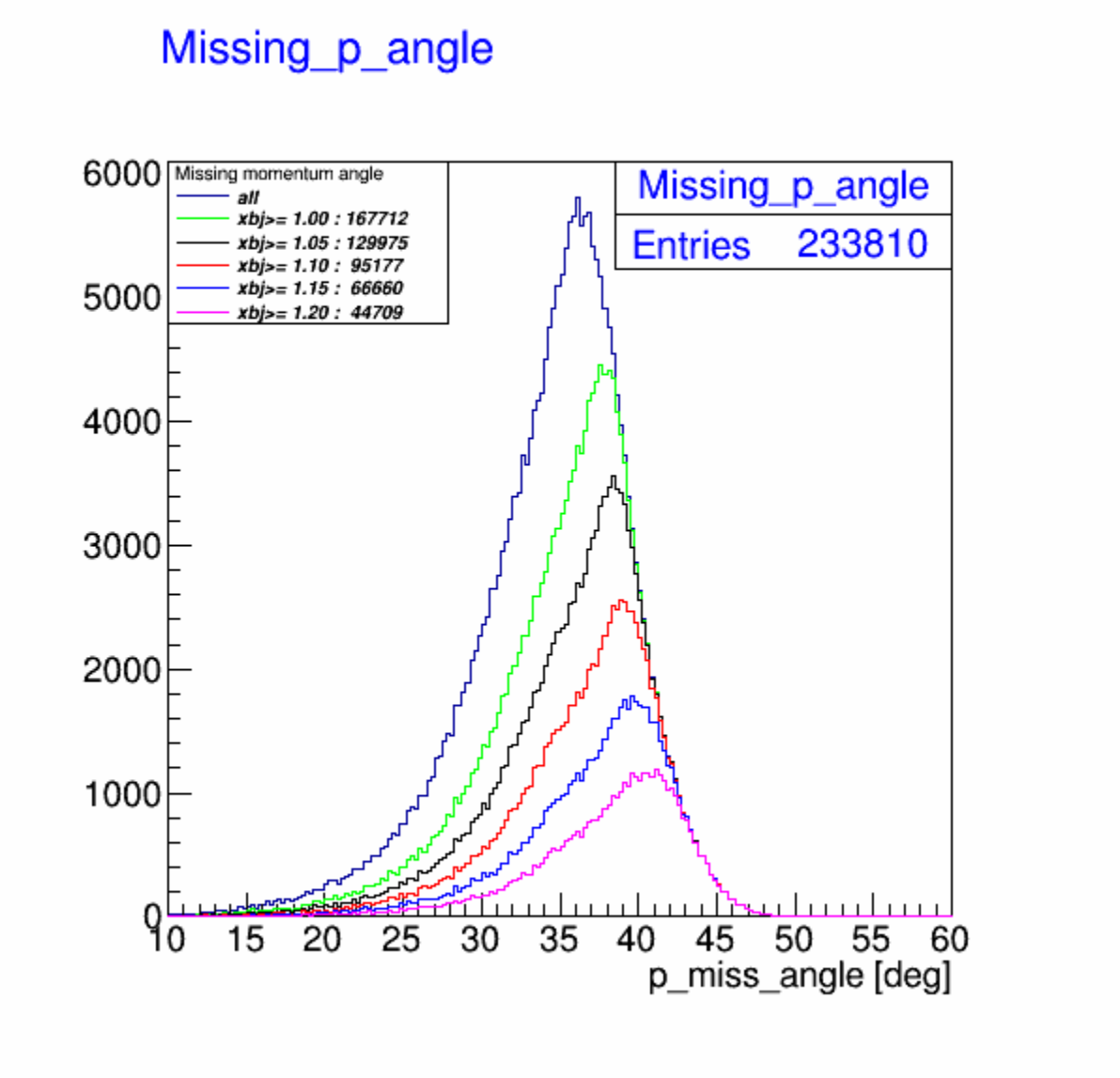

Figure 4.2 : missing momentum angle

Consider the kinematic setting of the RHRS.
For Kin 1:
The center forward-proton momentum is at 1.3825 GeV/c at 33.5 degree.
For Kin 2:
The center forward-proton momentum is at 1.30825 GeV/c at 29 degree.

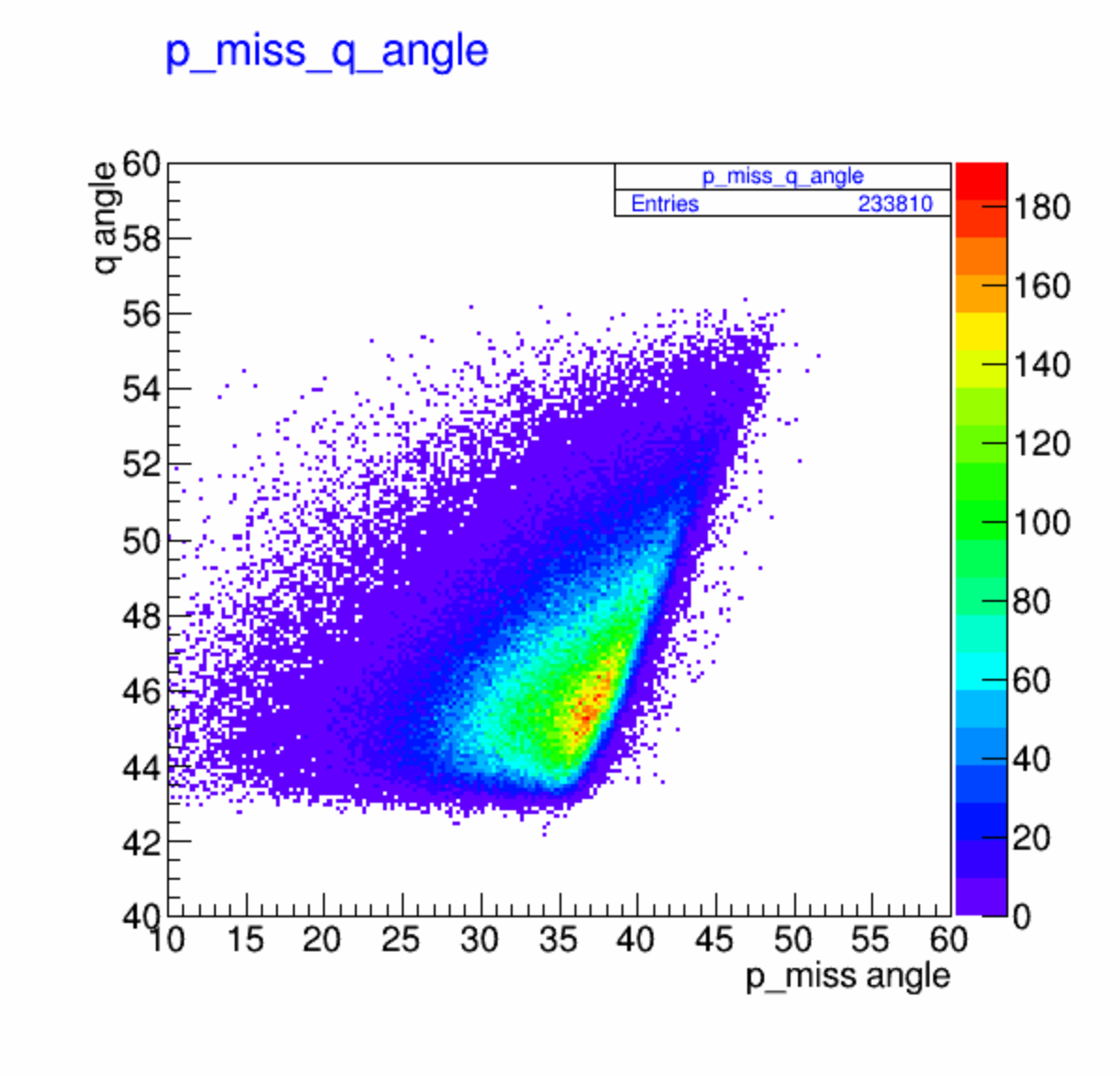

Figure 4.3 p_miss angle vs q angle

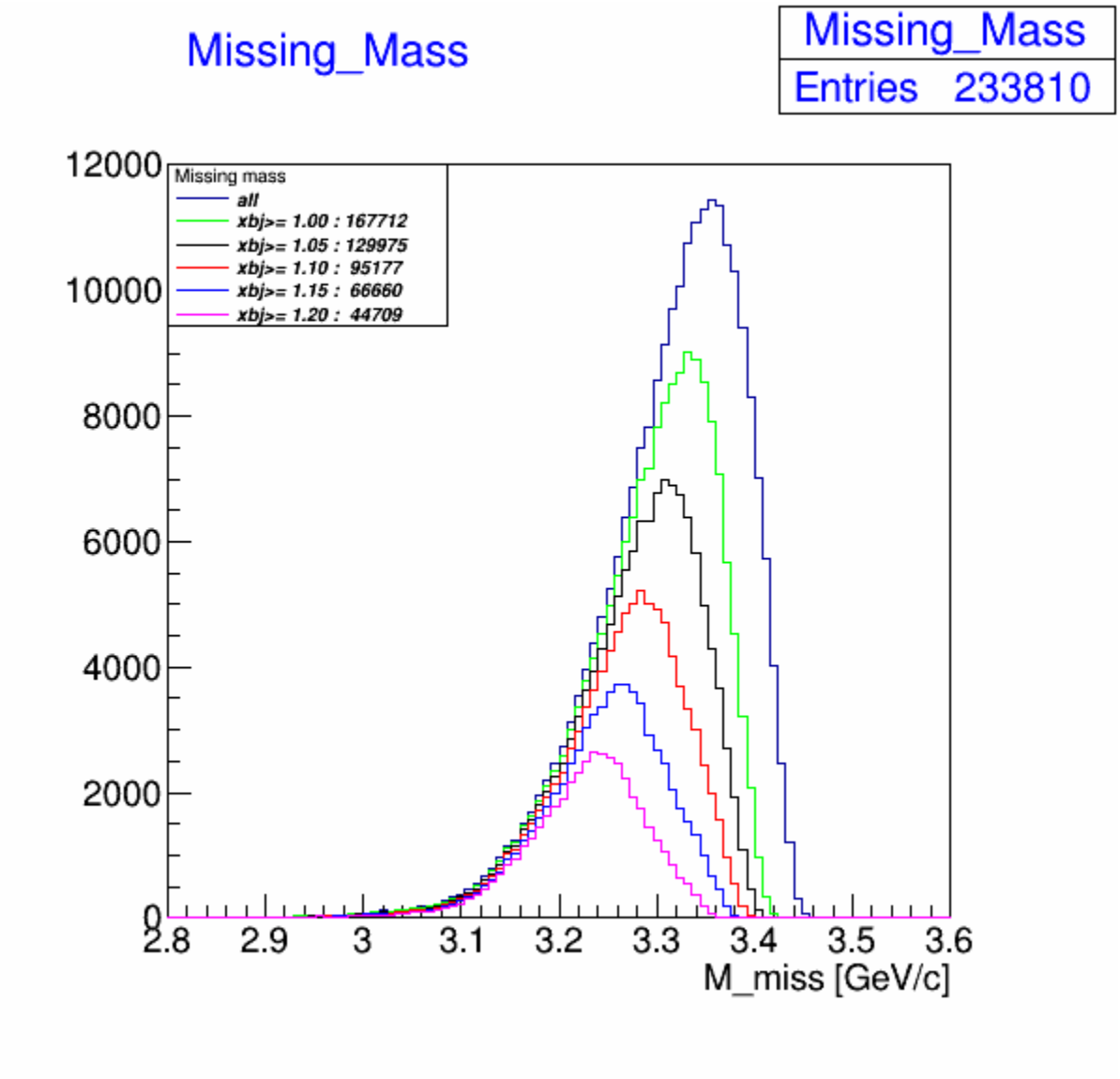

Figure 5: Missing Mass

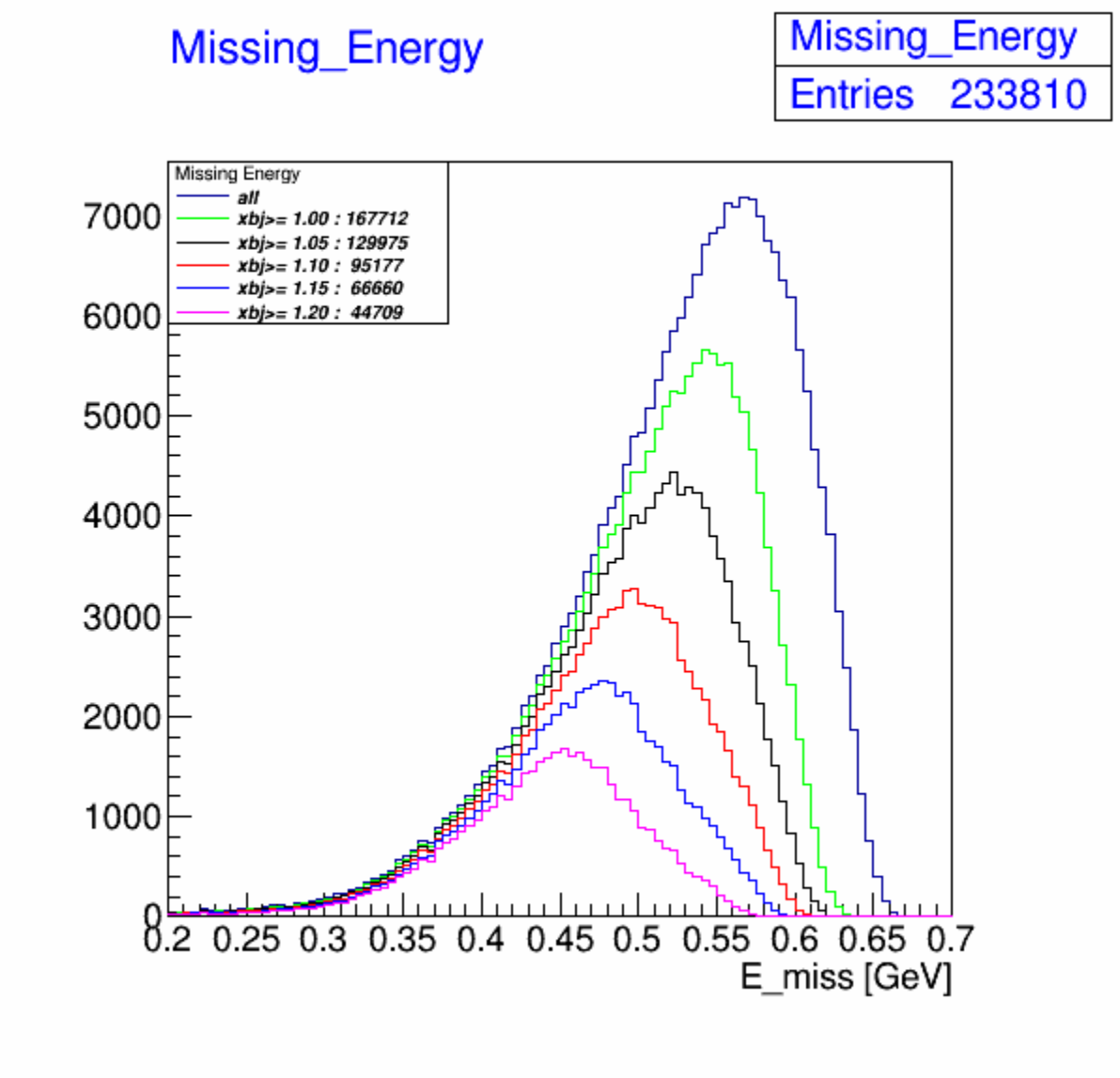

Figure 6: Missing Energy

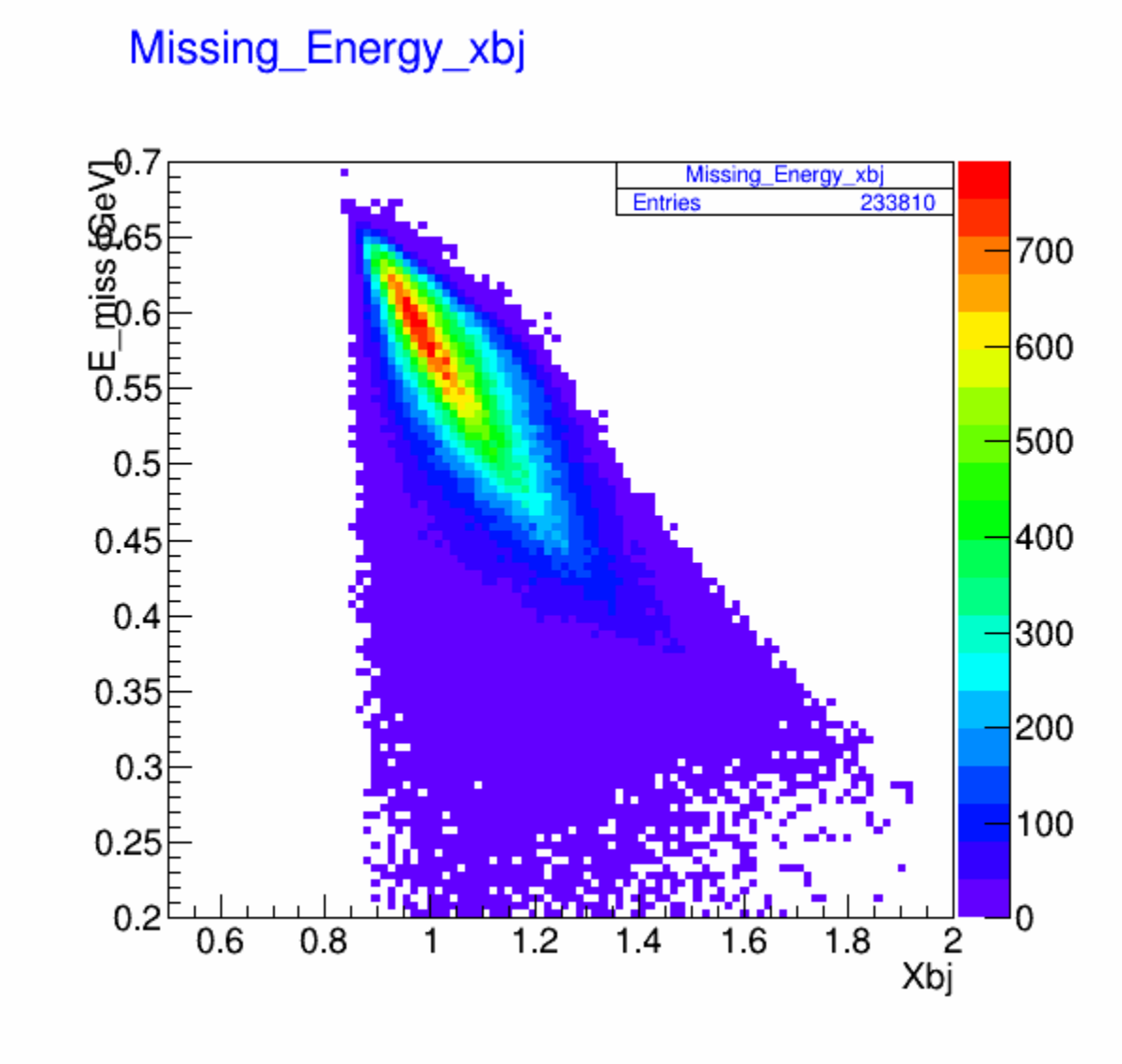

Figure 7.1: Missing Energy vs x_bj

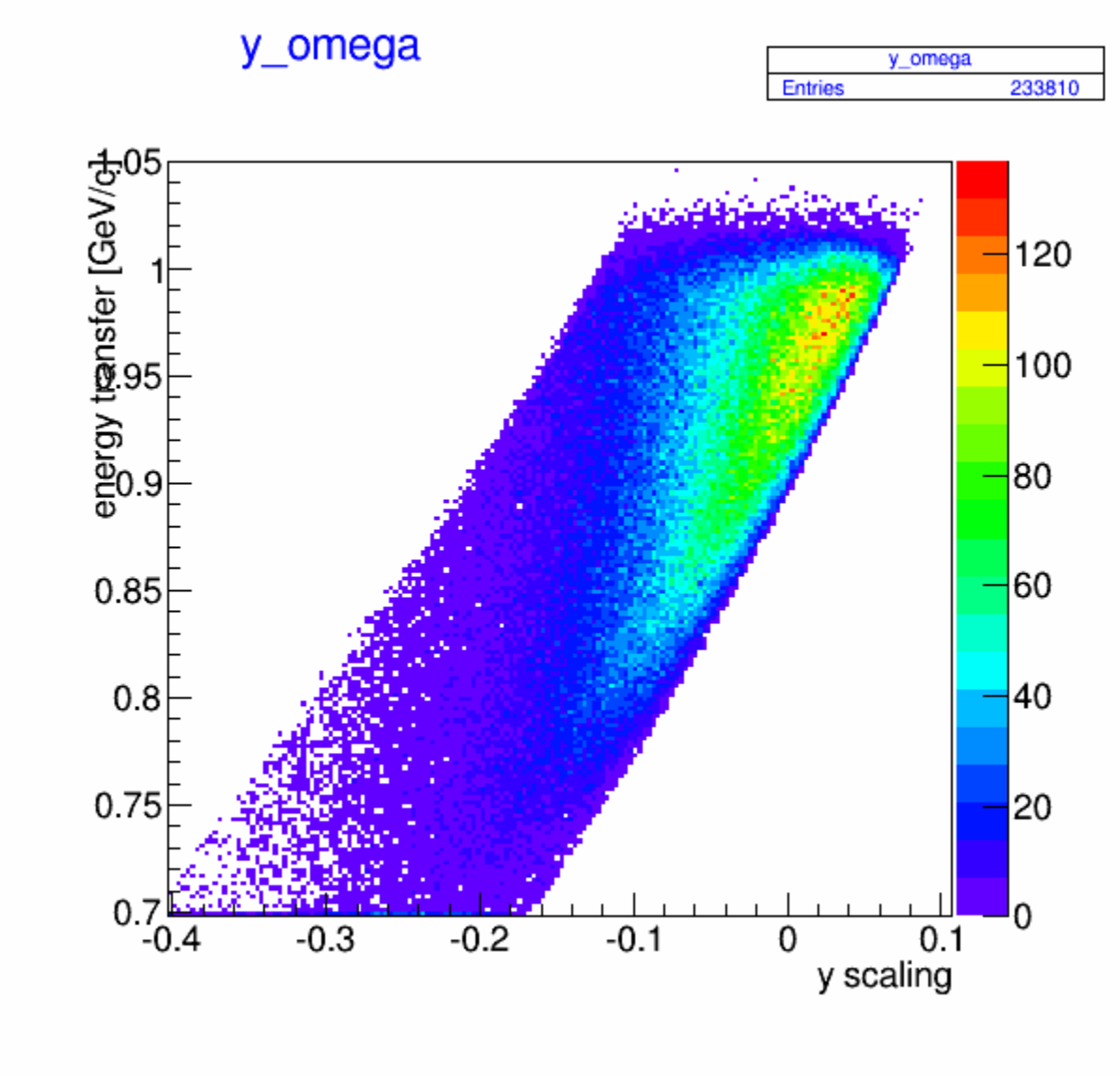

Figure 8.1: energy transfer vs y-scaling

y(q,w) =[(MA-w)*sqrt(lamda^2-MA^2*W^2)-|q|*lamda]/W^2
with
lamda = (M_(A-1)^2-Mp^2+W^2)/2

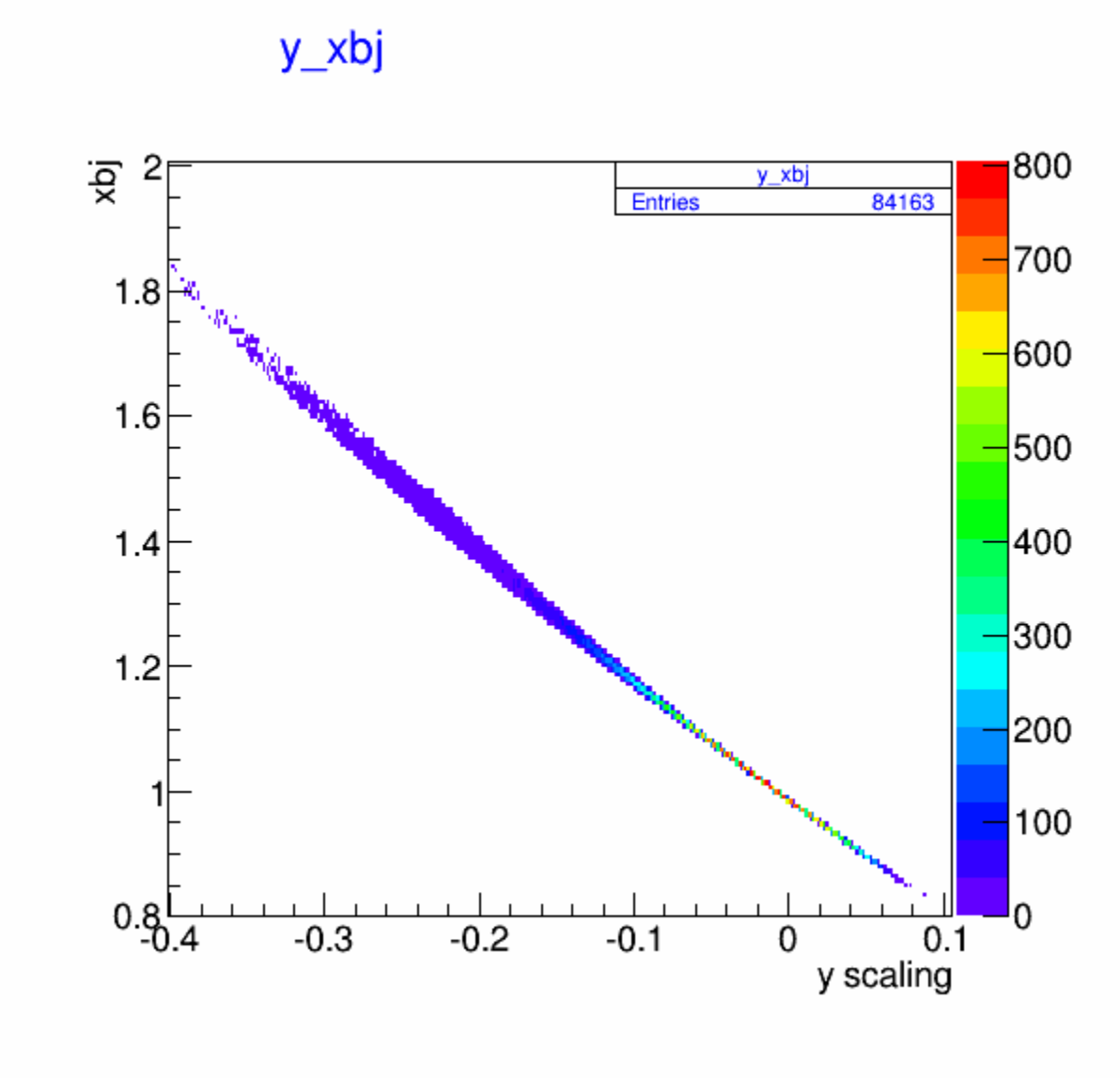

Figure 9: xbj vs y