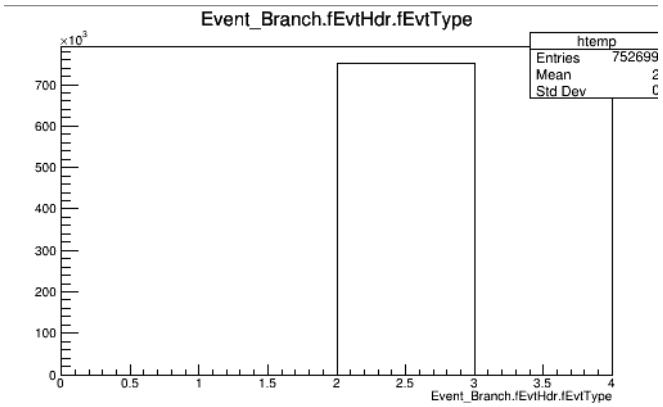
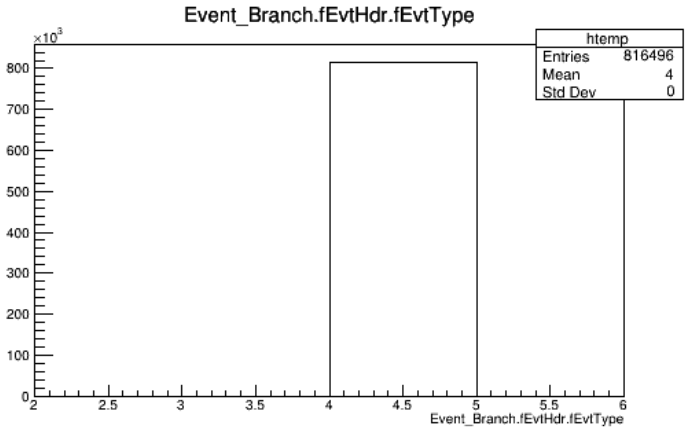
Study of Electron Singles Yield for Runs 5885 and 5890 and Coincidence Yield for Runs 5887, 5888, 5889 and 5890 BASED on Event Type

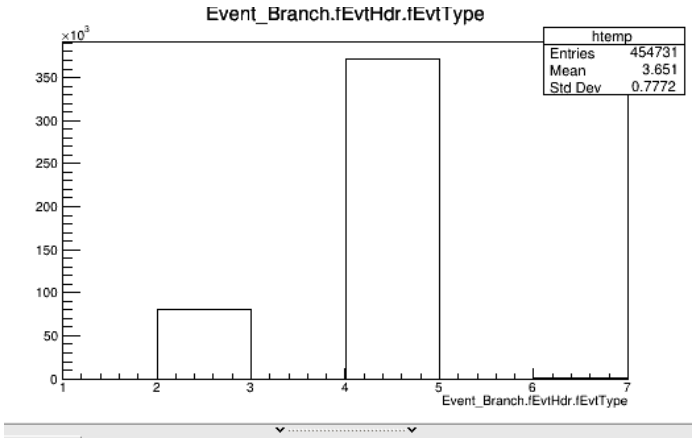
Run 5885 HMS Pre-scale ps3 =0, others -1
Run5887-5889 Coincidence Runs ps6 =0, others -1
Run 5890 ps4 = 7, ps6 =0, others -1



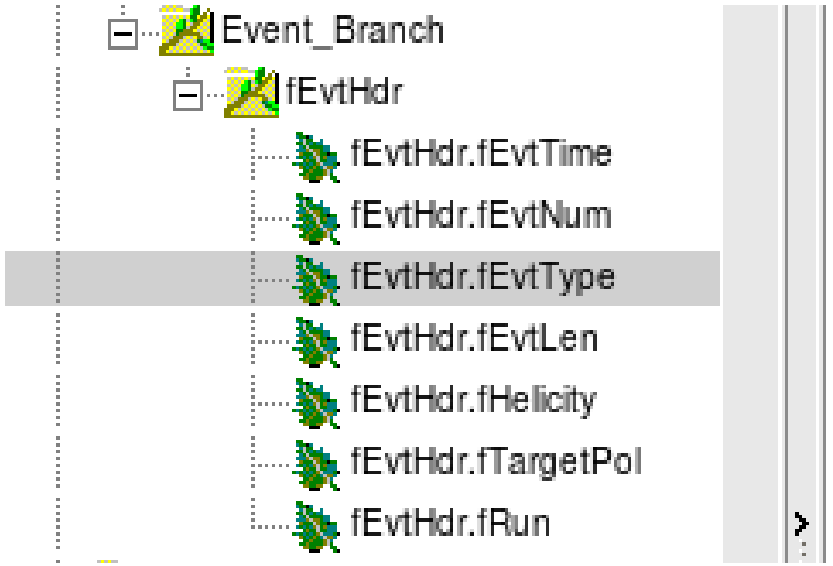
Run 5885



Run 5887



Run 5890



Getting Electron Singles Yield for Runs 5885, 5889 and 5890, LH2

Selecting Electrons in HMS by :
0.8<hcal_E/p<1.2 && 0.8<hbeta<1.2&& hcer>0.2 &&-10<hdelta<10
(Using Same cuts for all Runs)

Yield (Y) = N/Q, Error in Y = (N/Q)*[1/sqrt(N)]*

Run No (Evt Type)	Prescale	Charge (BCM4A cut charge) mC (Q)	Events passed through all cuts (N)	Yield = No of Events / (Charge*LT*Tr.eff) per uC (as LT and EFF are same for all, I didn't include these)
5885 (2)	Ps3 = 0	5.146	241427	241427/5146 = (46.916+/- 0.095)
5887 (4)	Ps6 = 0	35.920	116921	116921/35920 = (3.255 +/- 0.095)
5888 (4)	Ps6 = 0	7.685	25197	25197/7685 = (3.278 +/ 0.0206)
5889 (4)	Ps6 =0	41.604	135681	135681/41604 = 3.264 +/- 0.009
5890 (2 ,4 & 6)	Ps4 =7 Ps6 =0	16.492	64257	
5890 (singles)	Ps4=7	16.492	11070(2 only)	(65*11070+53187)/16.492=46.855 +/- 0.183
5890 (4 &6 only)	Ps6=0	16.492	53187	53187/16.492= 3.225 +/-0.014

Fractional difference of SINGLES YIELD between Runs 5885 and 5890 →[(46.916-46.855)*46.855]*100 = 0.117%
Fractional difference of COINCIDENCE YIELD between Runs 5887, 5888, 5889 and 5890
→ [(3.255+3.278+3.264)/3-3.225]/3.225*100 = 1.27%