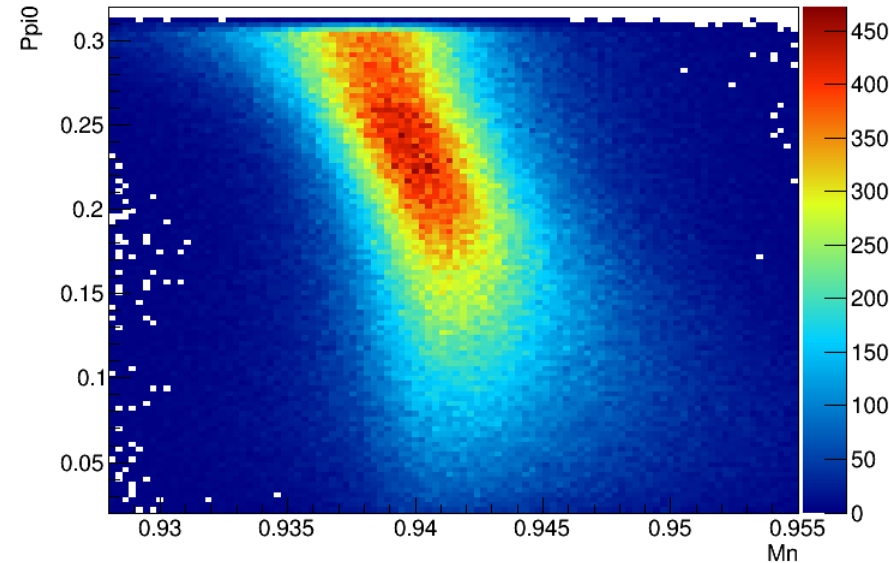
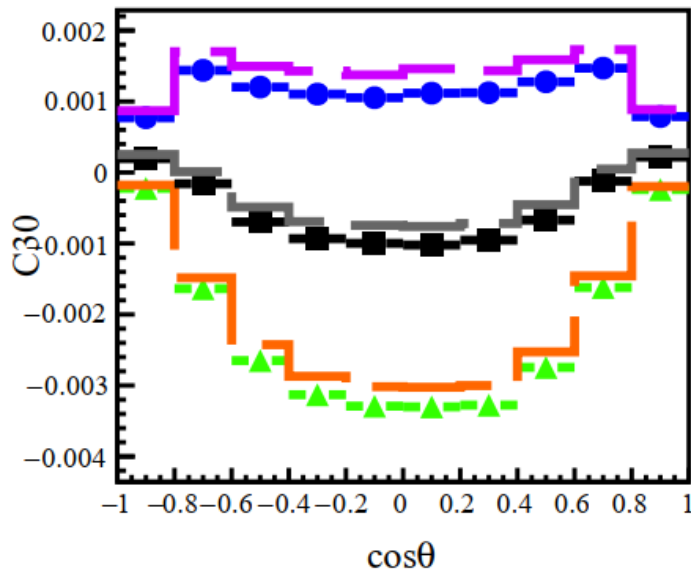


Problem

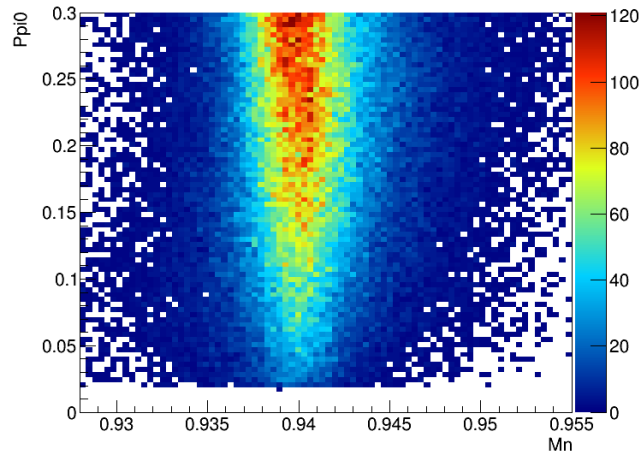
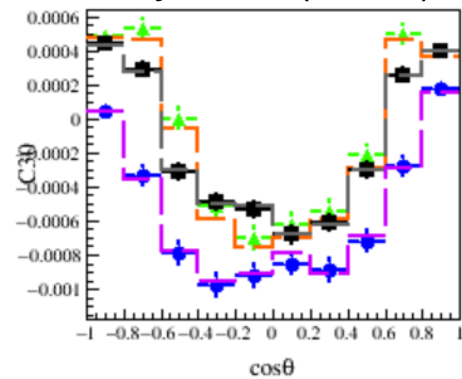
Left Signal Region: (0.928 – 0.939) (206132)
Medium Signal Region: (0.939 – 0.942) (287098)
Right Signal Region: (0.942 – 0.955) (278200)

- 将中子质量区间划分为左中右三份，C30矩出现很大的分离
- $\Lambda \rightarrow n\pi^0$ 的衰变长度起了主要作用

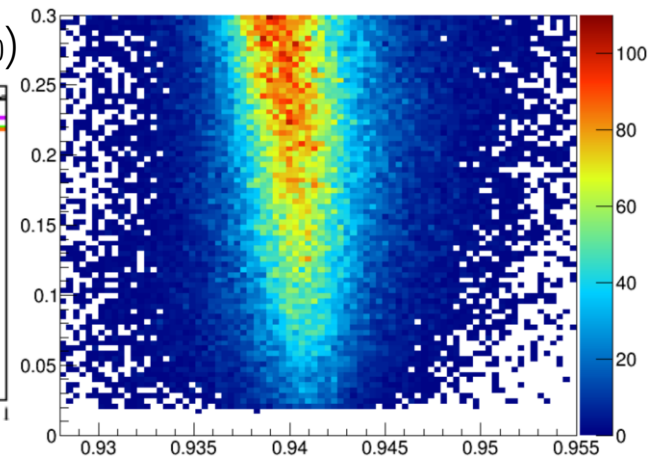
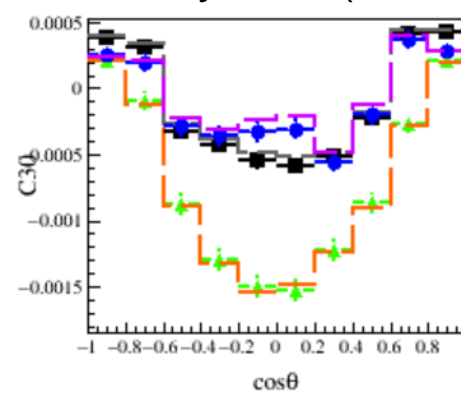


$$C_{30} = \frac{\vec{P}_n \cdot \vec{P}_\Lambda}{|\vec{P}_n|} = \cos\theta_{\Lambda,n}$$

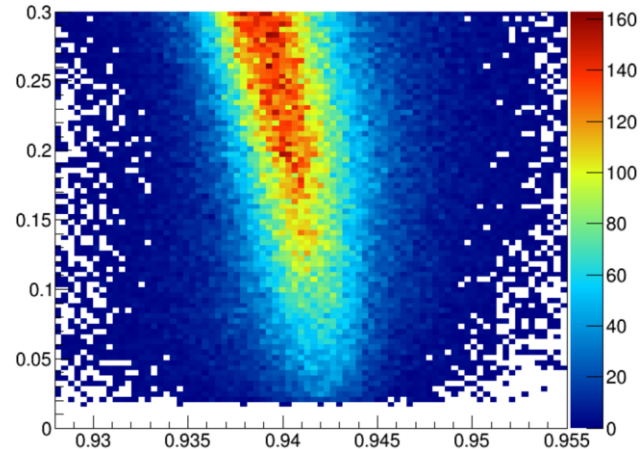
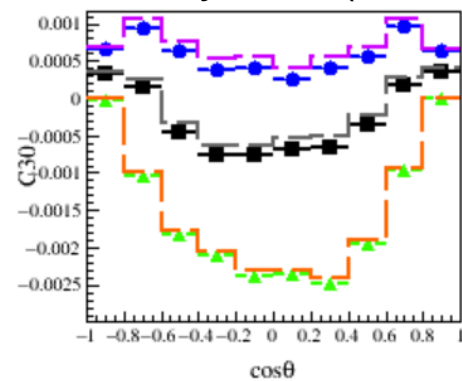
decayL < 1 (13.6%)



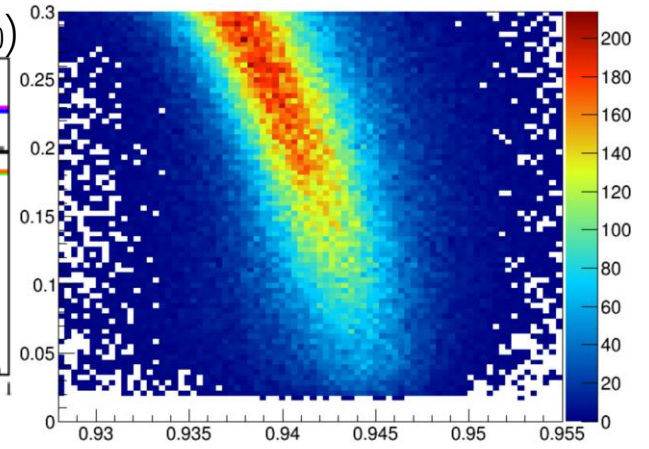
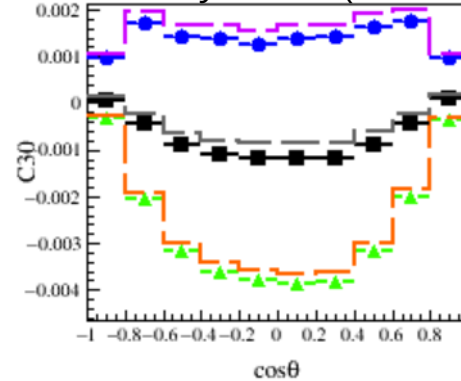
1 < decayL < 2 (11.8%)



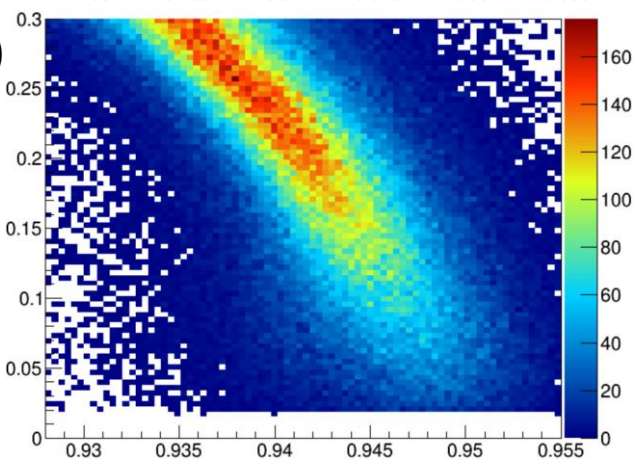
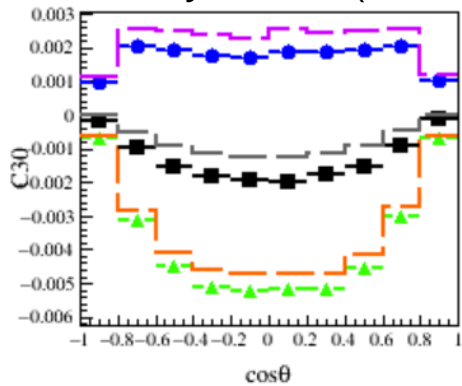
2 < decayL < 4 (19.2%)



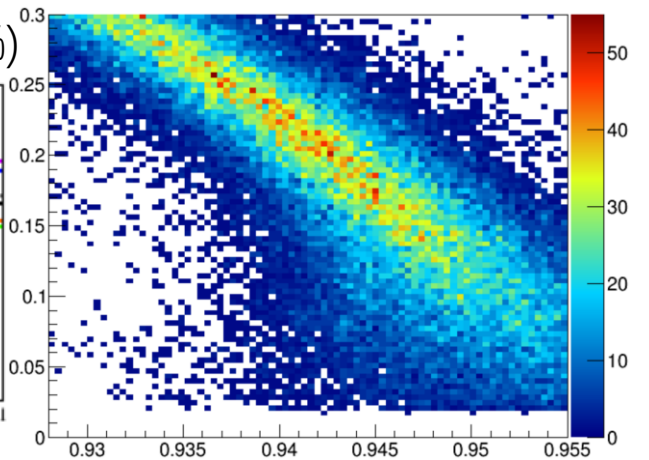
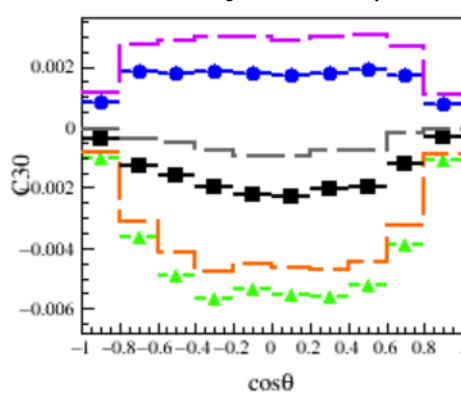
4 < decayL < 8 (25.7%)

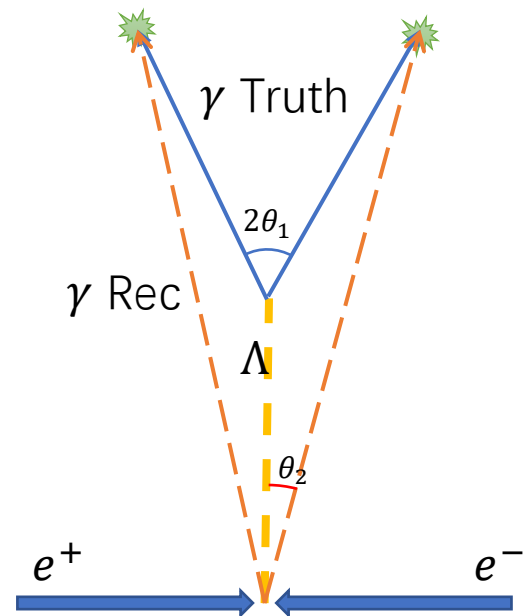
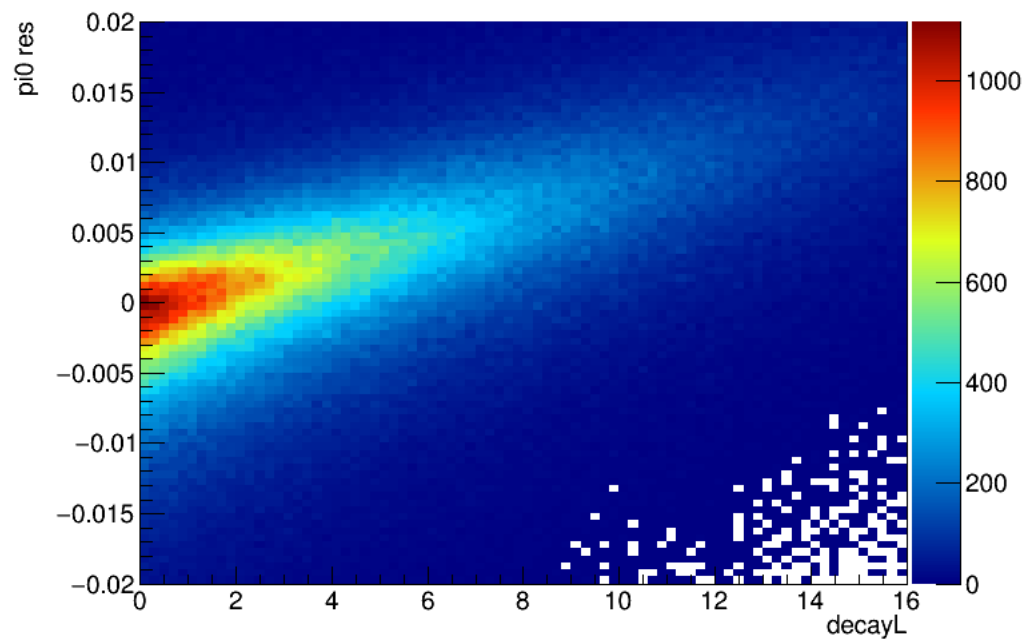


8 < decayL < 16 (22.4%)



16 < decayL < 32 (6.9%)





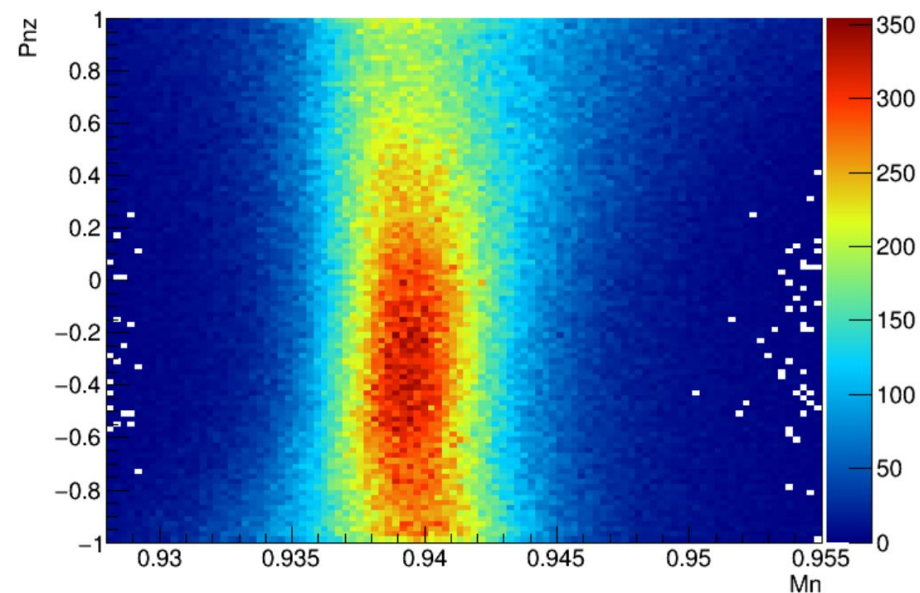
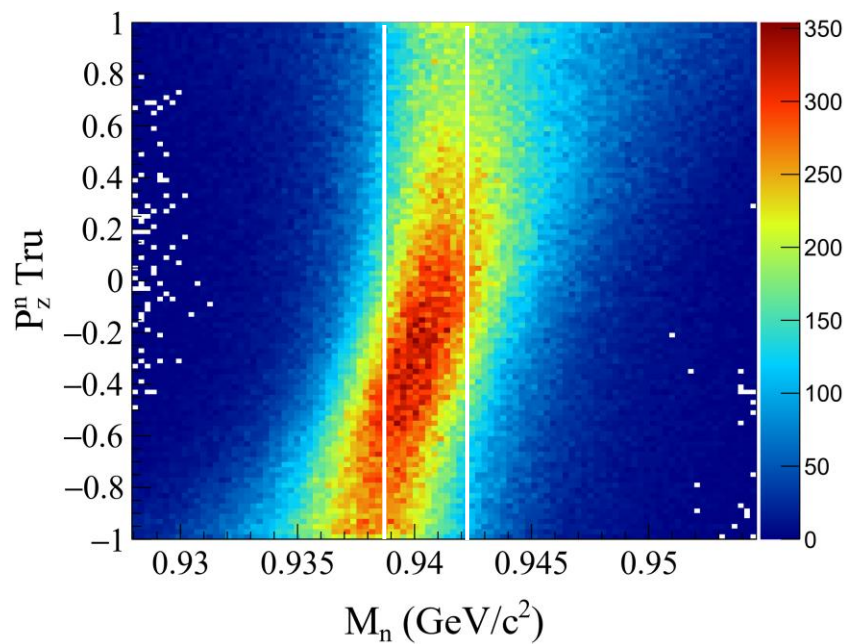
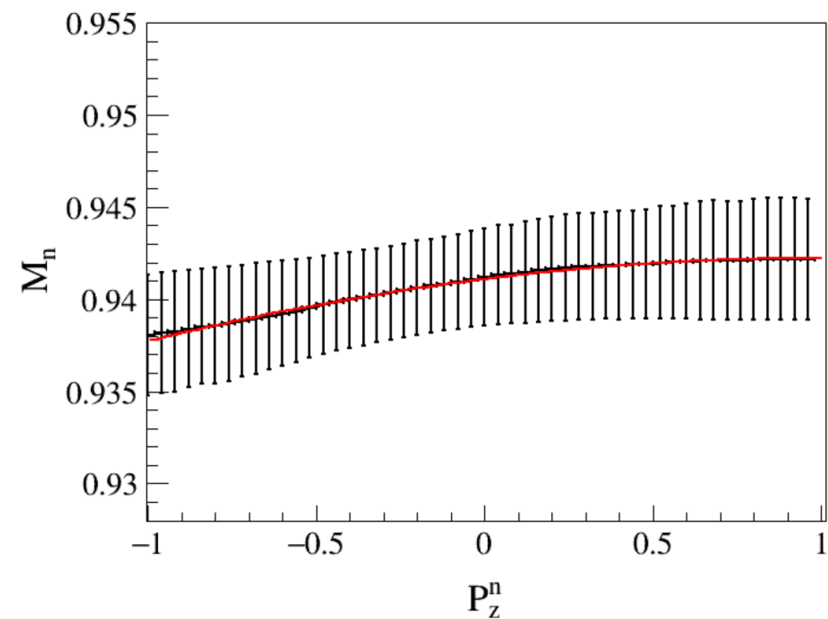
$$P_z^{Truth} = E \cos \theta_1$$

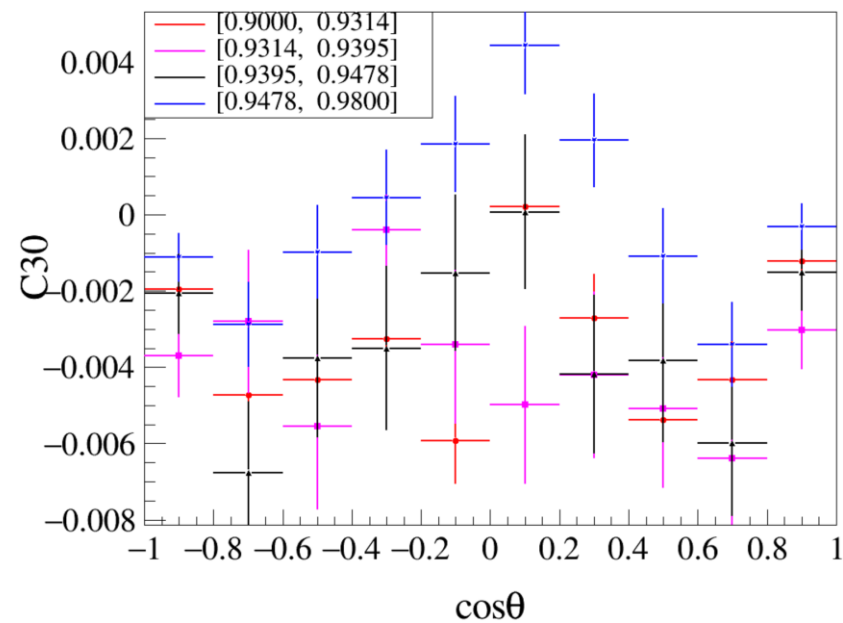
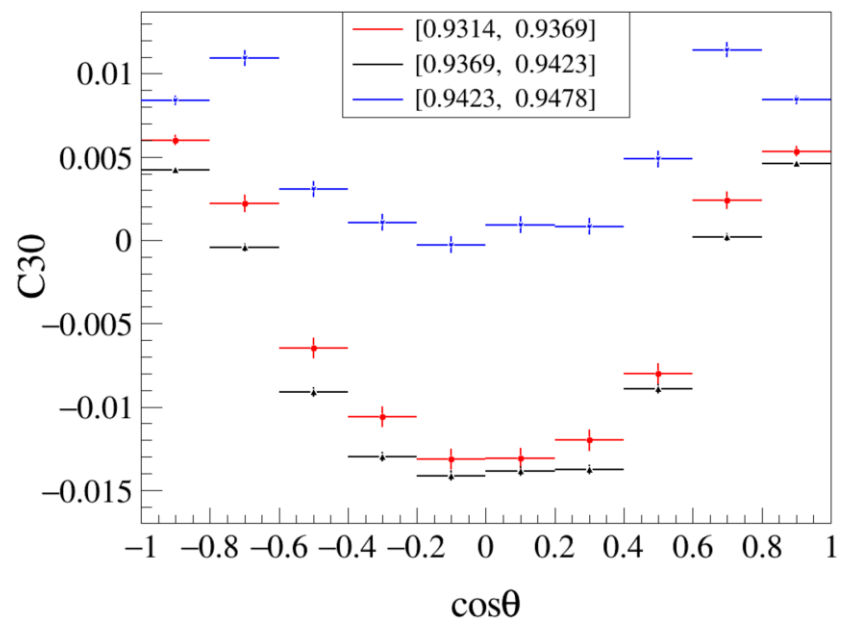
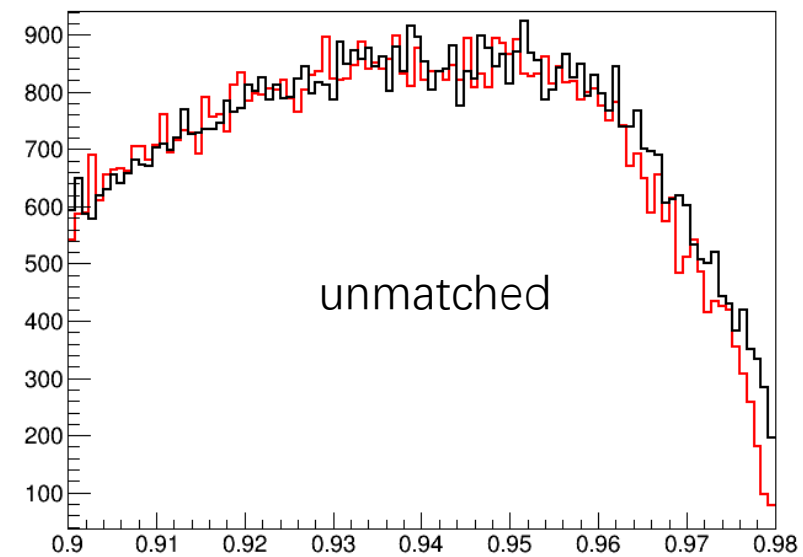
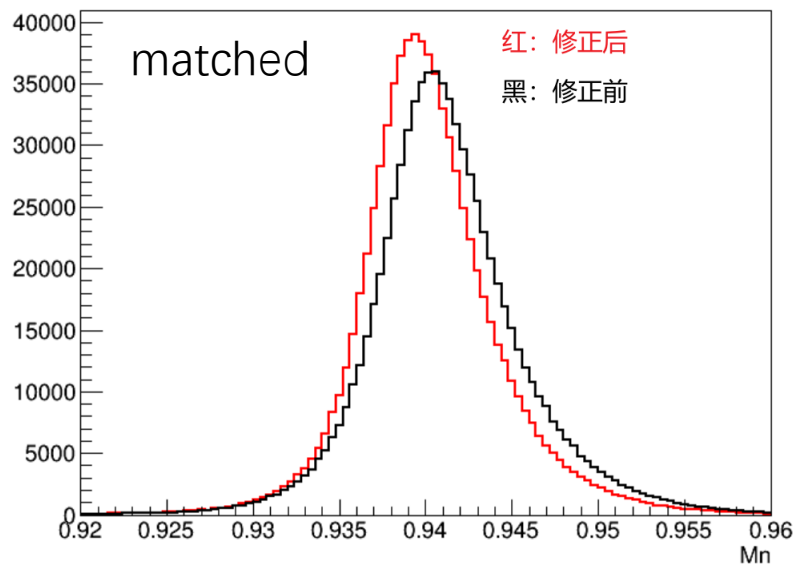
$$P_z^{Rec} = E \cos \theta_2$$

decayL 增大, $\cos \theta_2$ 变大, π^0
z 方向动量变大

A Simple Correction

- P_z 分50bin, 每个bin拟合中子质量谱(M_n^i, σ^i)
- 二阶多项式拟合
- Event by event shift





Back up

