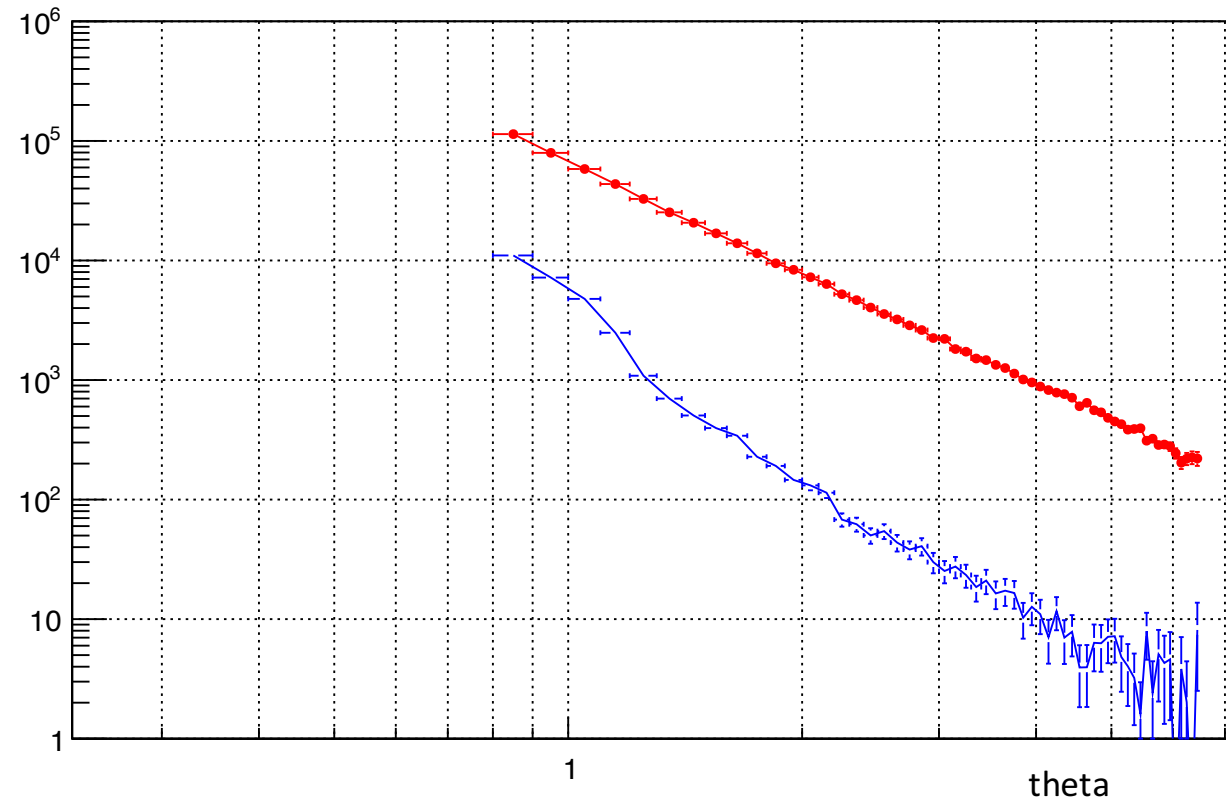


EP yield 2.2GeV

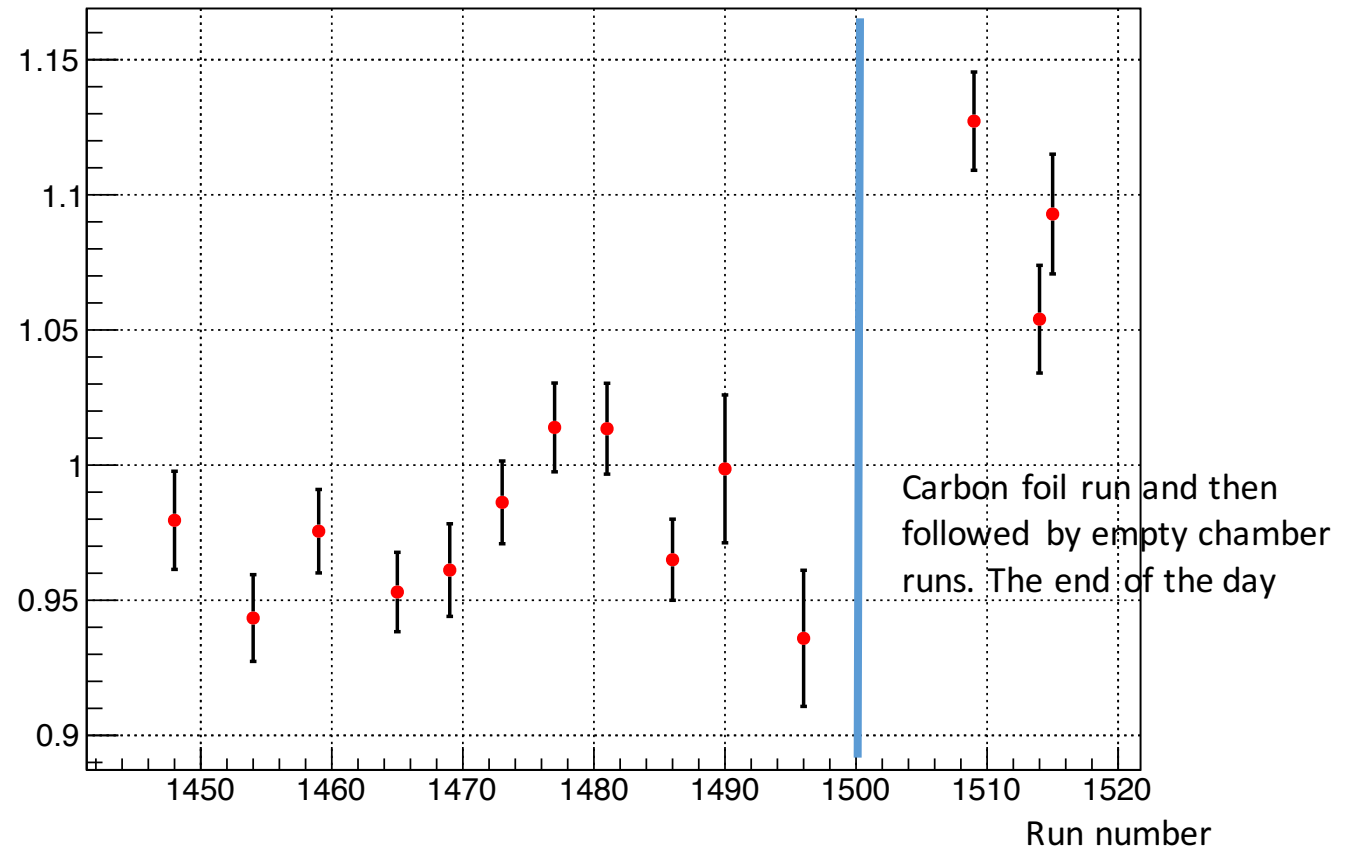
- Background at around 1% to 3% level for 2.2GeV at $\theta > 1.3$ deg
- $\sim 10\%$ for $\theta = 0.8$ deg
- If the residual gas is fluctuating at a $\pm 5\%$ level, then the time dependence of the residual gas will only introduce a $\sim 0.2\%$ uncertainty to the ratio

Graph



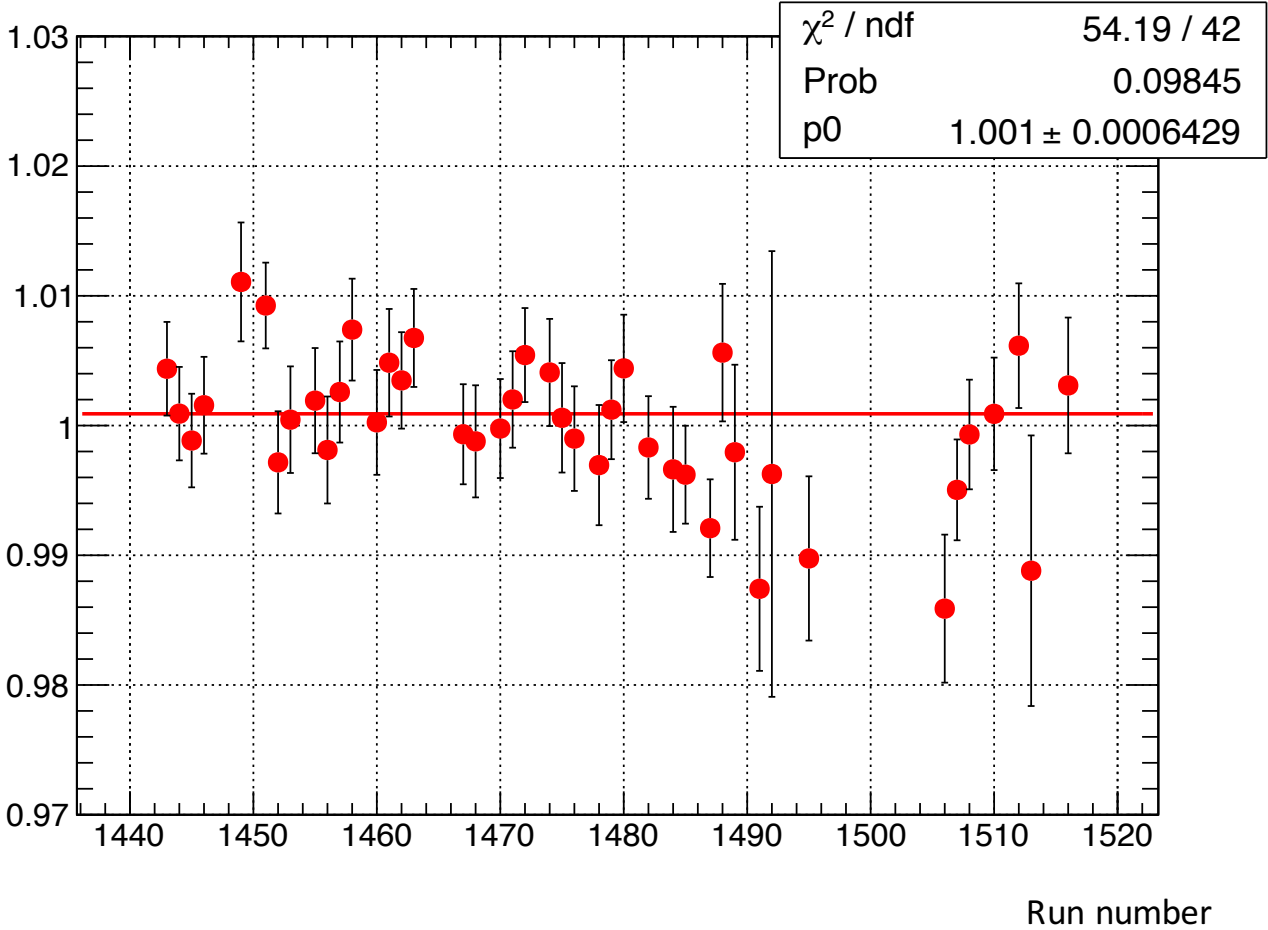
Live charge weighted and normalized ee2 yield from empty target run for 2.2 GeV

Graph



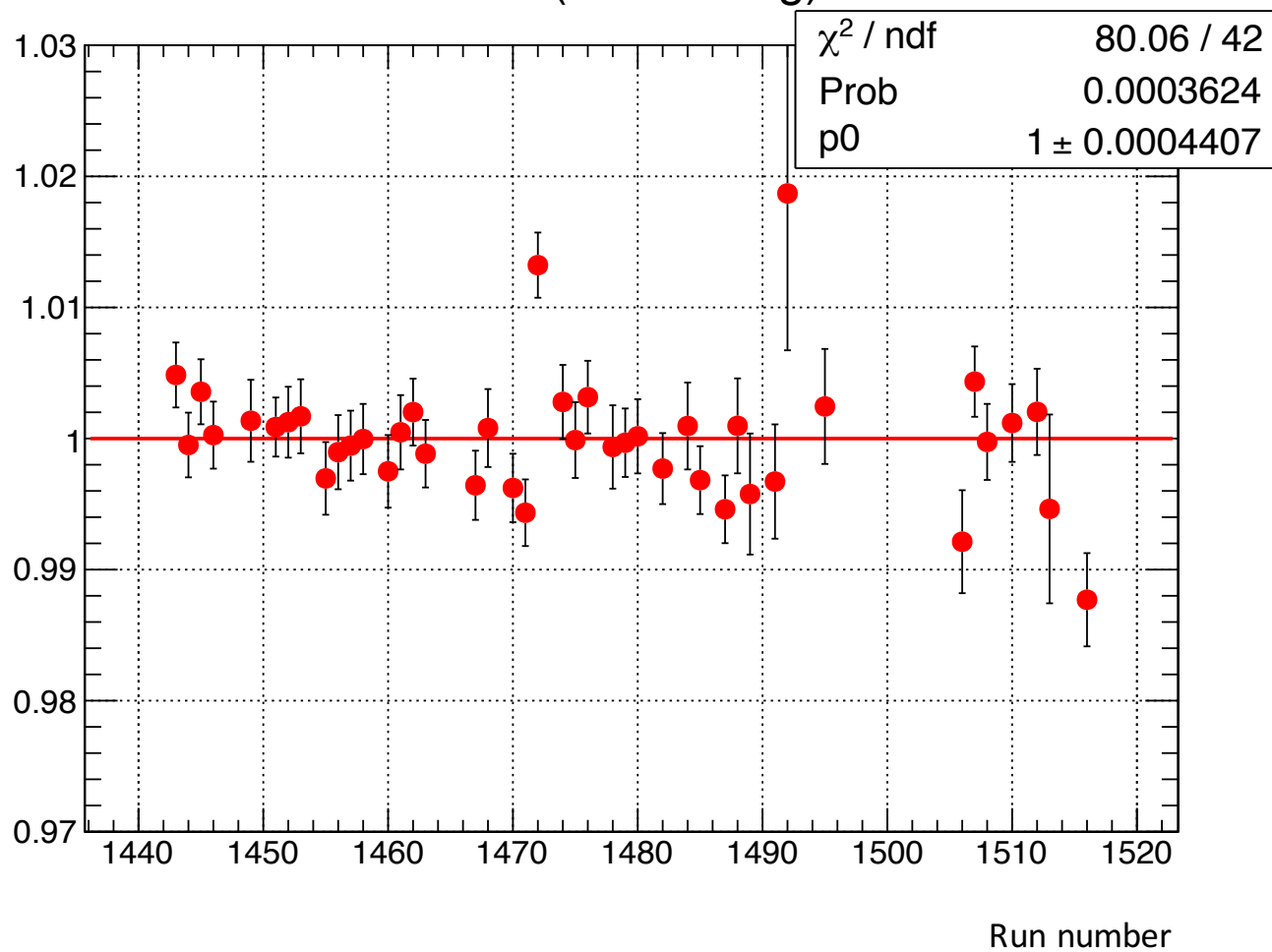
Normalized ep / ee2 ratio for 2.2 GeV

ratio ($\theta > 1.3$ deg)



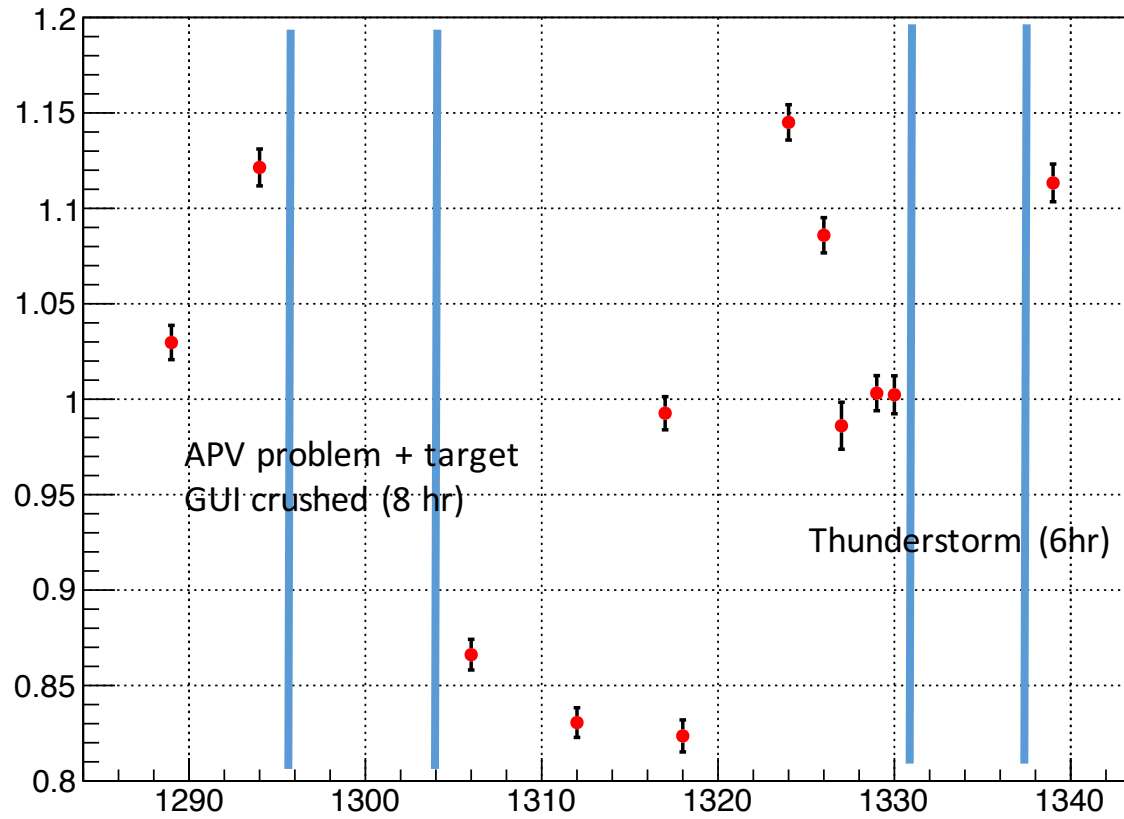
Normalized ep / ee2 ratio for 2.2 GeV

ratio ($\theta < 1.3$ deg)



Live charge weighted and normalized ee2 yield from empty target run for 1.1 GeV

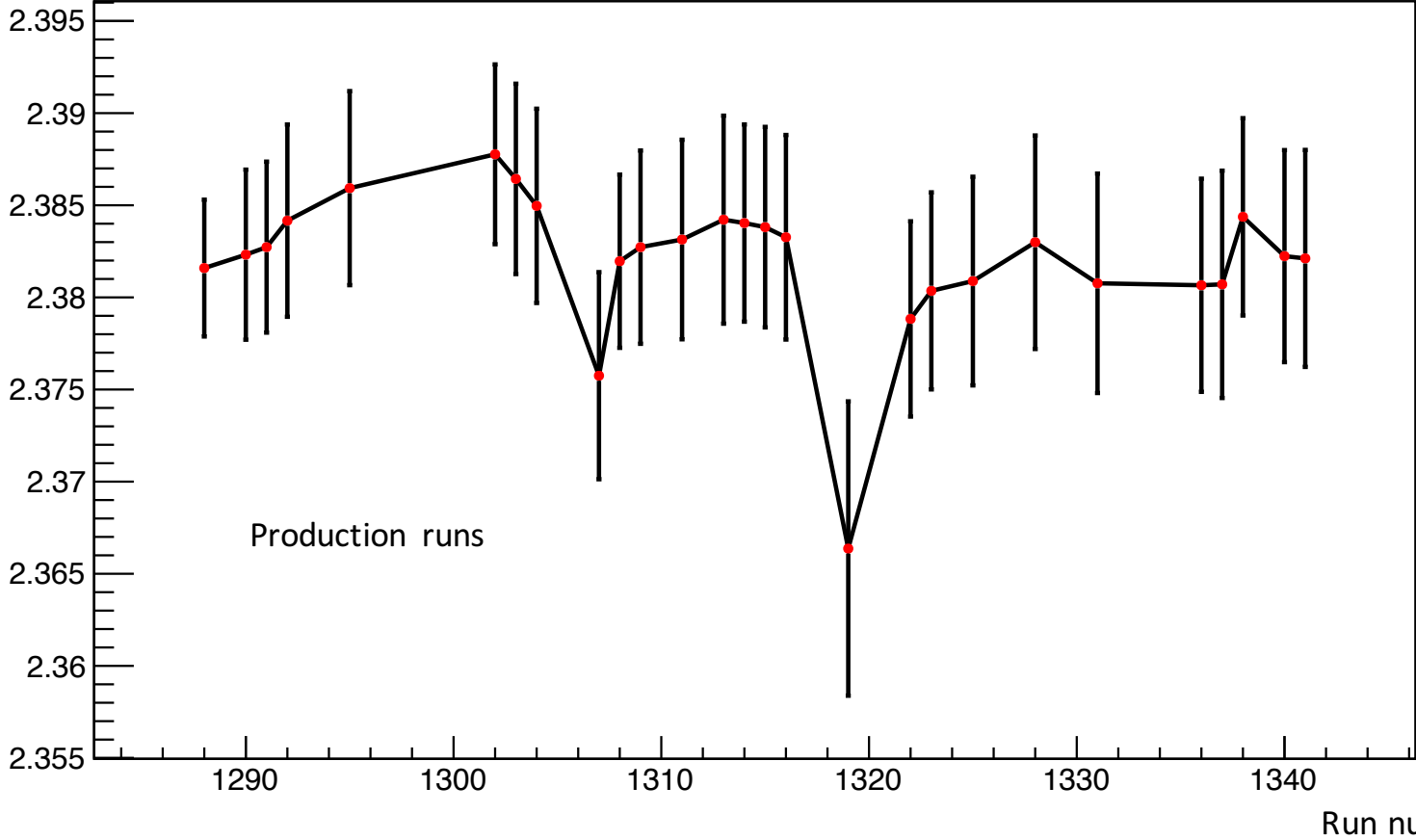
Graph



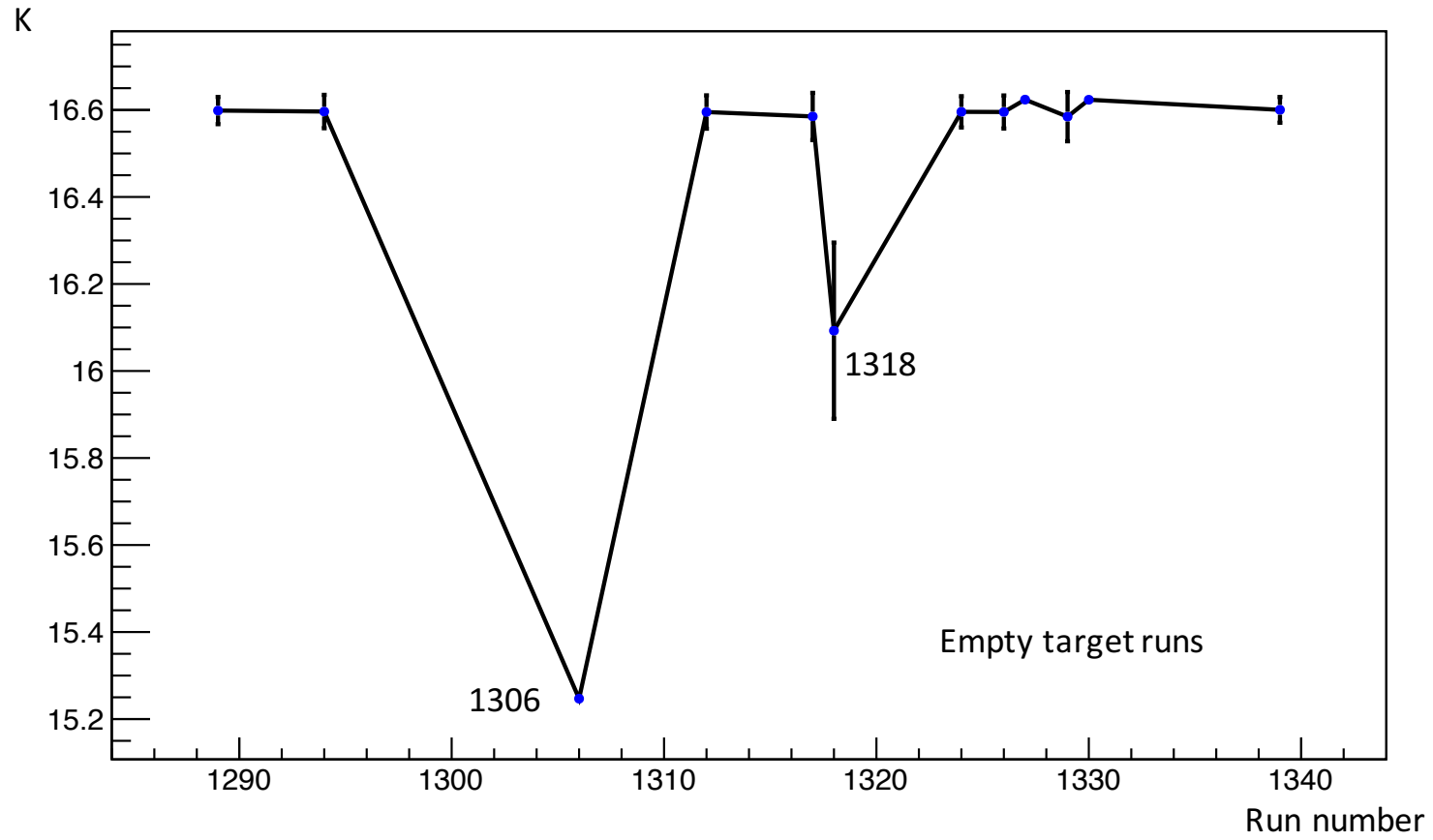
- After target GUI crushed, there are a couple runs that have very strange behavior
 - 1307 – very unstable temperature and obviously smaller ep / ee ratio compared to others
 - A couple other runs have very strange EPICS values
 - 1318 (empty target) all EPICS values are bad
 - 1306 (empty target) cell body temperature
 - 1319(production) chamber pressure

mTorr

Chamber_Pressure_0

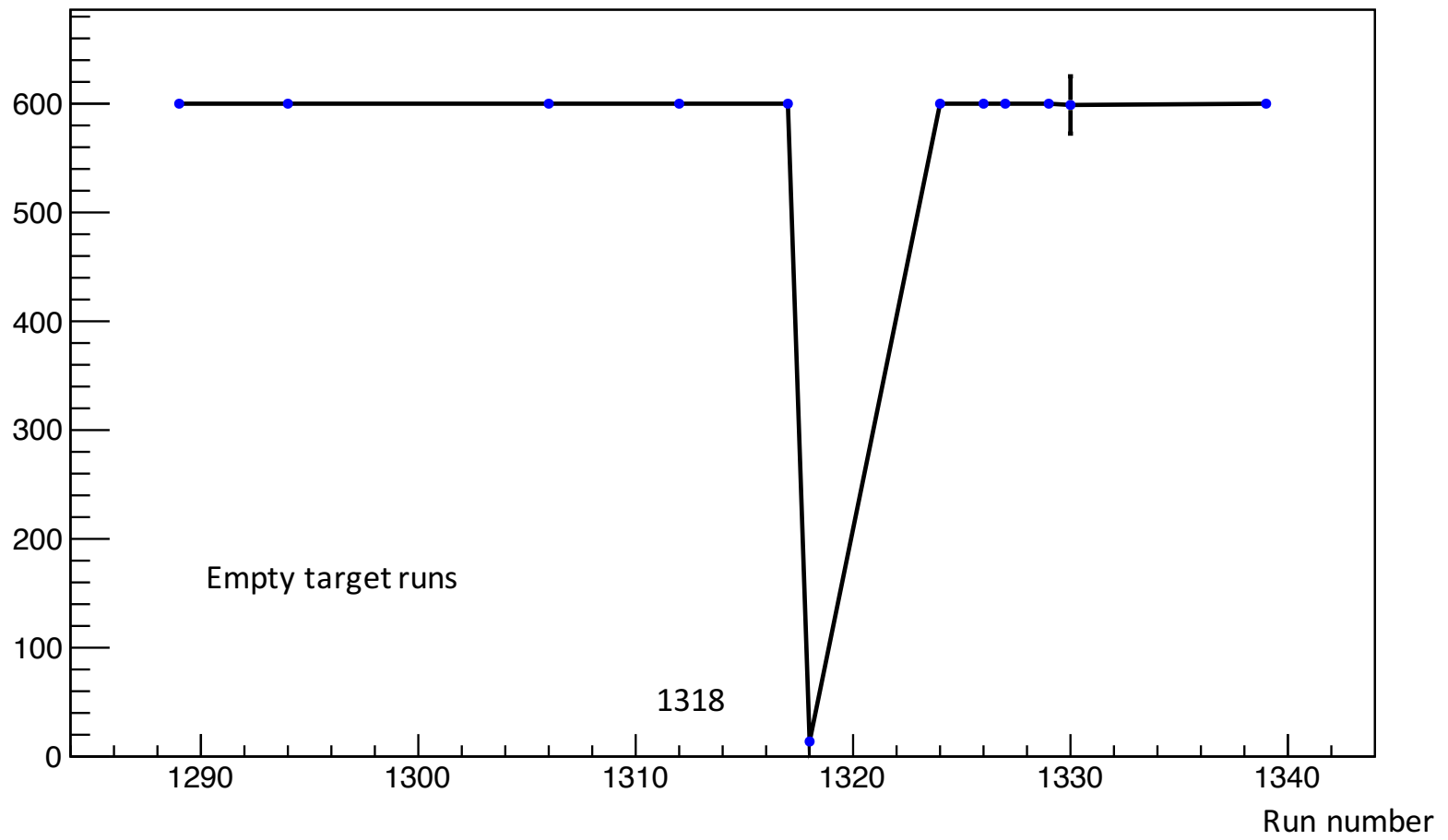


Cell_Body_T_1

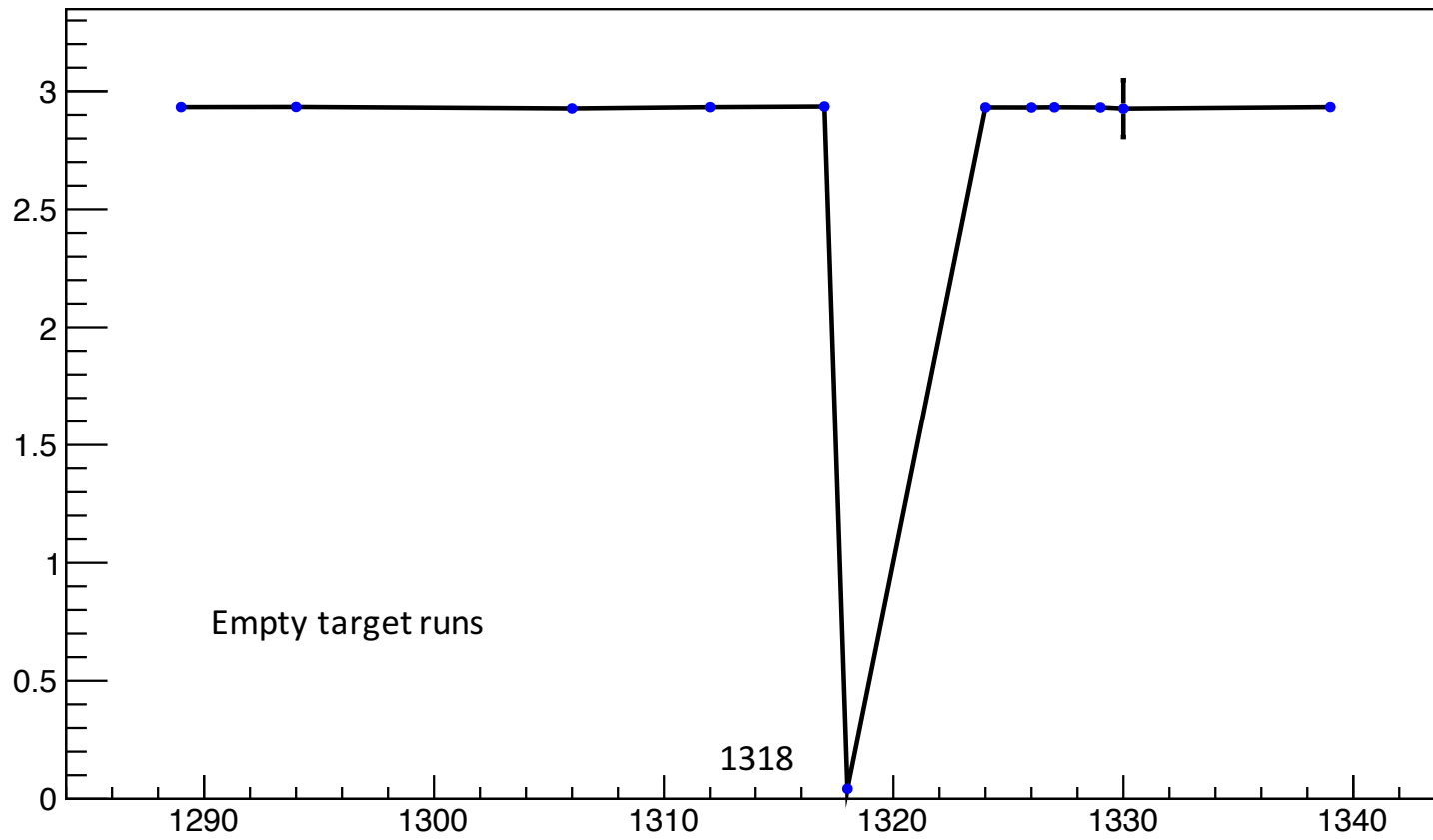


cc / min

Mass_Flow_1

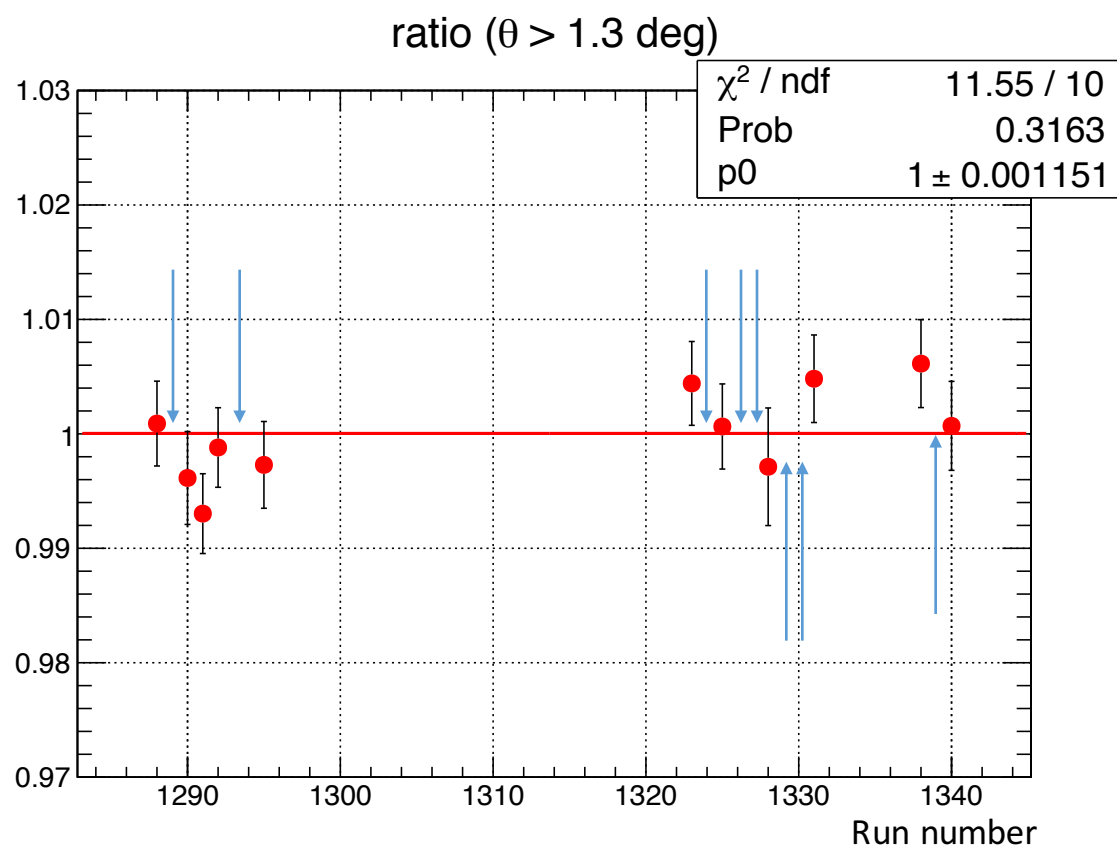


Chamber_Pressure_1

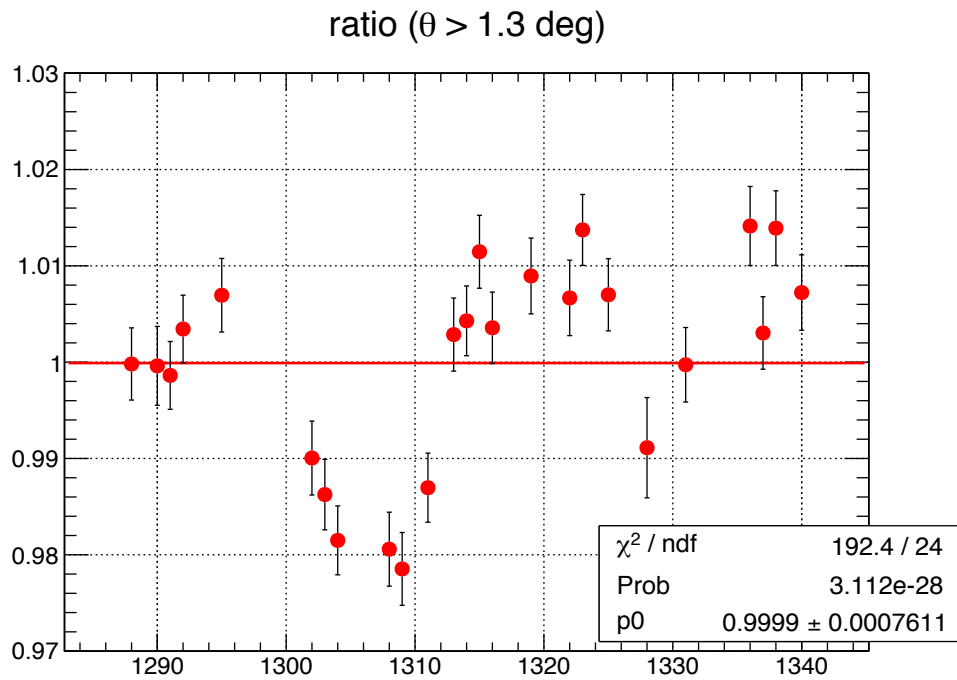


Normalized ep / ee2 ratio for 2.2 GeV

- Do not averaging empty target runs that are separated long in time
- Do not select any run from the highly unstable period (1302 ~ 1319)
- If there are two good empty target runs around a production run, use the average
- If there is only one good empty target run, only use the neighboring production run (separated by 1hr in time)



Normalized ep / ee2 ratio with empty target subtraction using all runs



Live charge weighted ee2 yield from empty target runs

