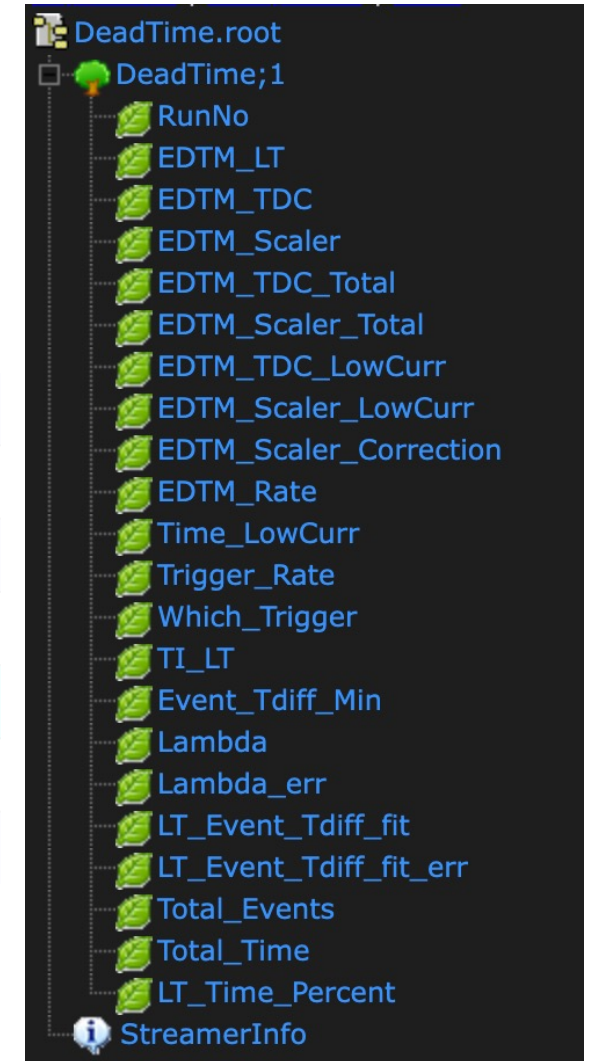


EDTM Calculation for All the runs

1. Apply the narrow EDTM TDC Time Raw cut automatically for each run (T.hms.hEDTM_tdcTimeRaw bin content>10)
2. Apply the $2\mu\text{A}$ beam current cut
3. Correct for the EDTM scaler rate sudden drop
4. Ignore the last several closely spaced scaler readouts because they're not very reliable
5. Generate root files with information related with the dead-time

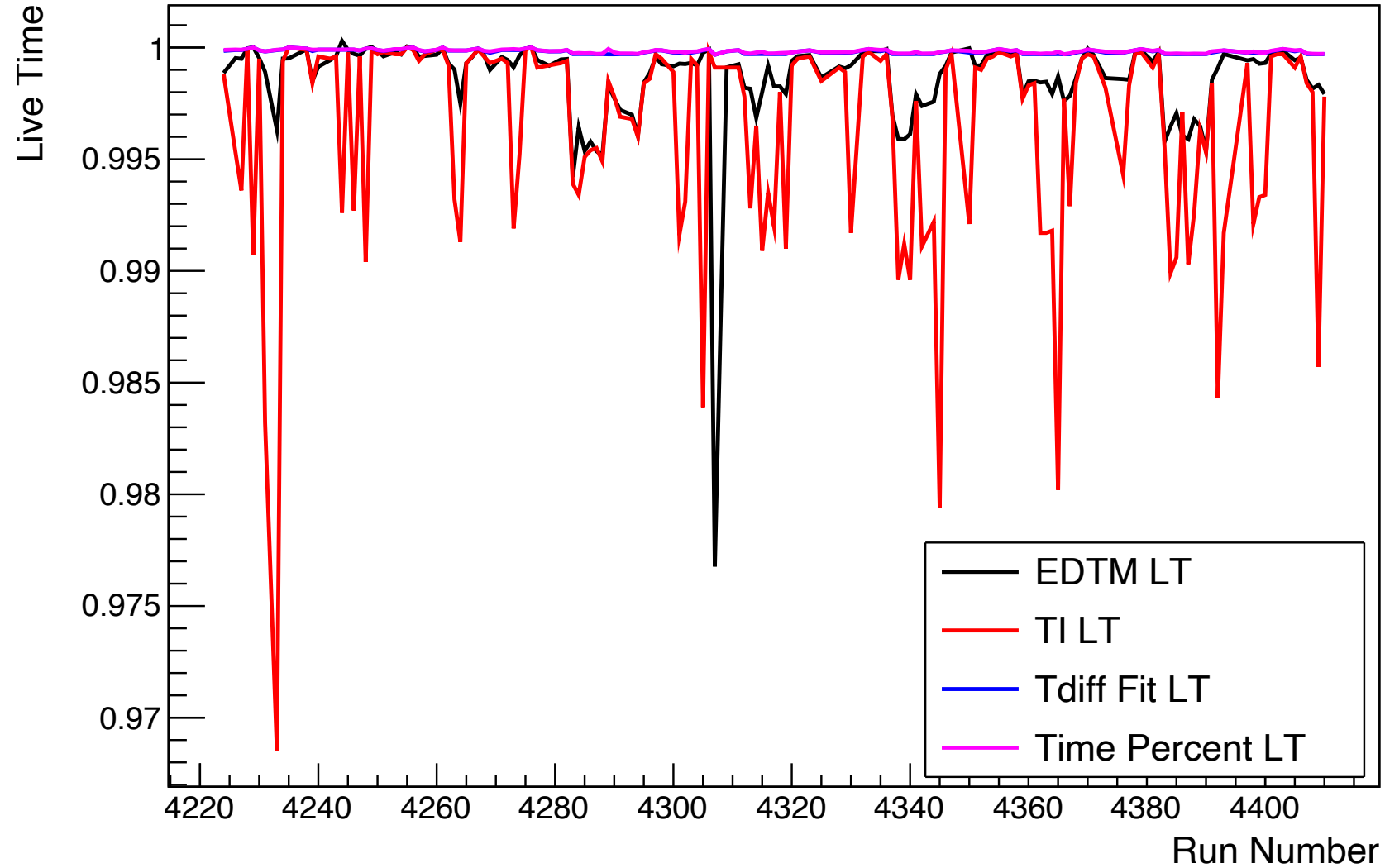
112562	jlab/enp	Yaopeng_DeadTime_7	yaopeng	03/01/24 18:58	03/02/24 22:33	0	53	245	0
112561	jlab/enp	Yaopeng_DeadTime_6	yaopeng	03/01/24 18:58	03/02/24 22:33	0	32	423	0
112560	jlab/enp	Yaopeng_DeadTime_5	yaopeng	03/01/24 18:58	03/02/24 22:20	0	14	399	0
112559	jlab/enp	Yaopeng_DeadTime_4	yaopeng	03/01/24 18:58	03/02/24 22:20	0	58	432	0
112558	jlab/enp	Yaopeng_DeadTime_3	yaopeng	03/01/24 18:58	03/02/24 22:20	0	111	378	0
112557	jlab/enp	Yaopeng_DeadTime_2	yaopeng	03/01/24 18:58	03/02/24 22:20	0	66	417	0
112556	jlab/enp	Yaopeng_DeadTime_1	yaopeng	03/01/24 18:57	03/02/24 22:20	0	69	425	0

403 runs failed in runs from 1501 to 4826
Most of them are short runs



Live Time from Different Methods

Comparison between different dead time calculation methods



DVCS charge normalized yield

dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

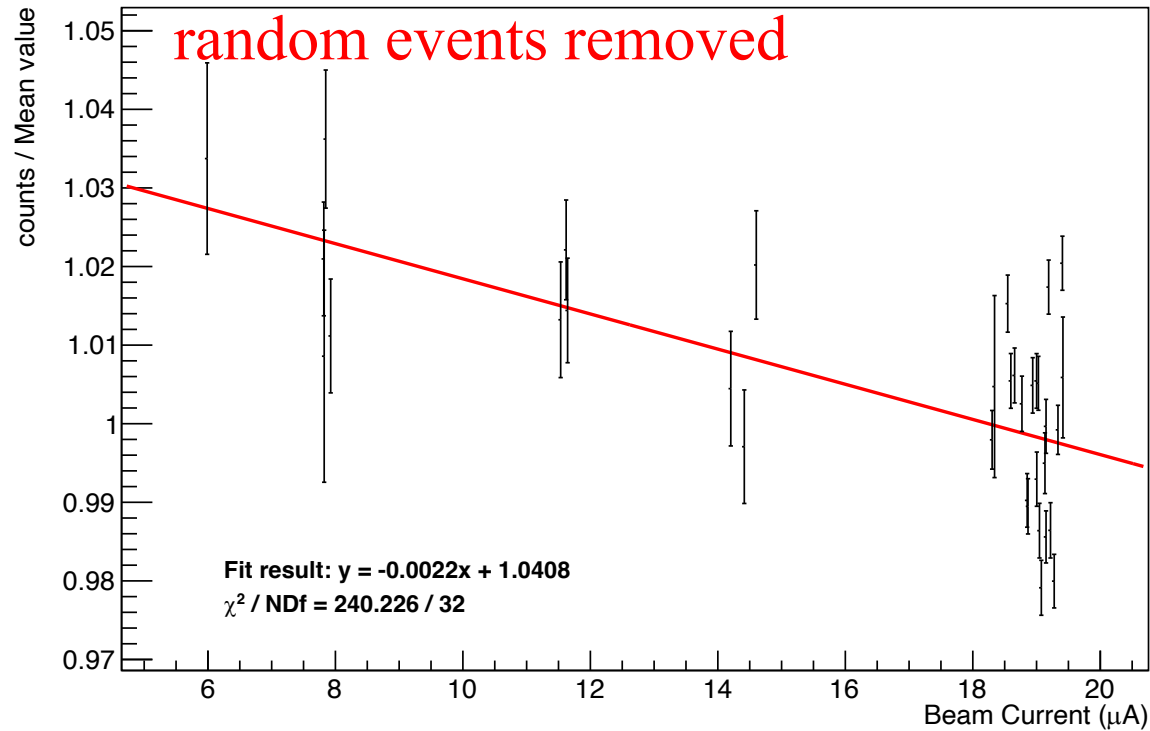
$145 < \text{clusT} < 155$

TI Live Time Correction

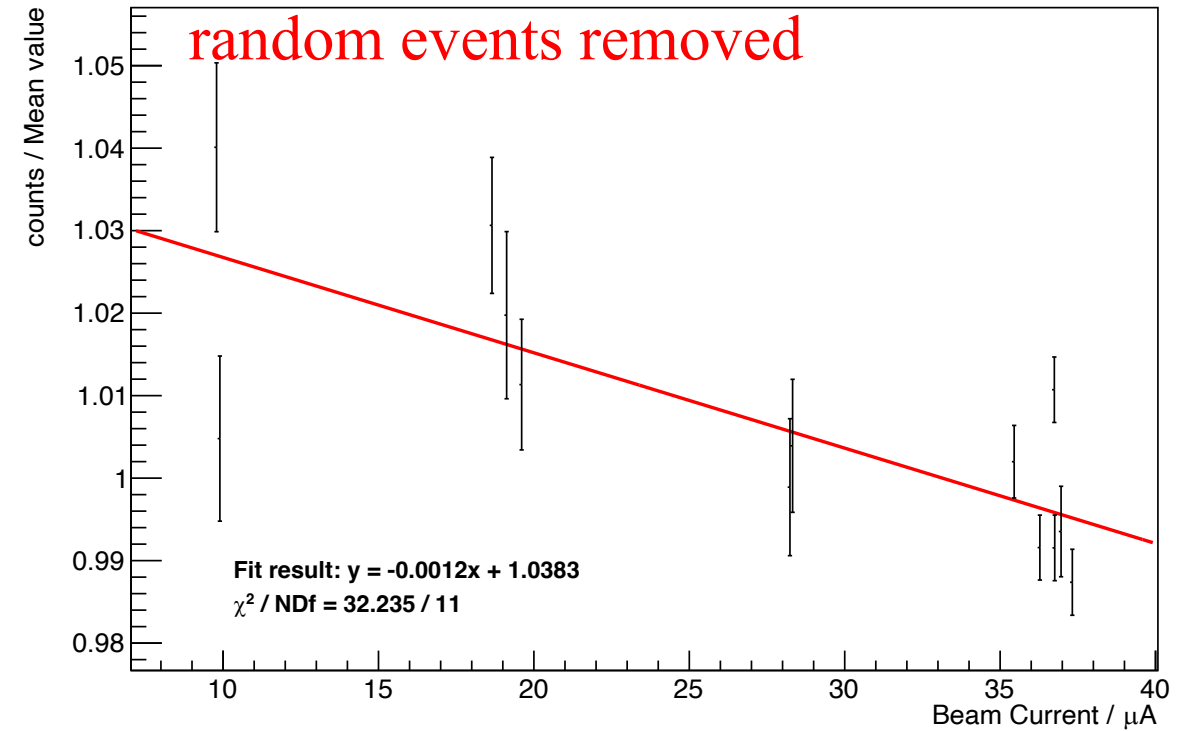
Include col 1-28

Charge normalized DVCS events(LD2) / Mean value

Charge normalized DVCS events(LH2) / Mean value



LD2



LH2

DVCS charge normalized yield

dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

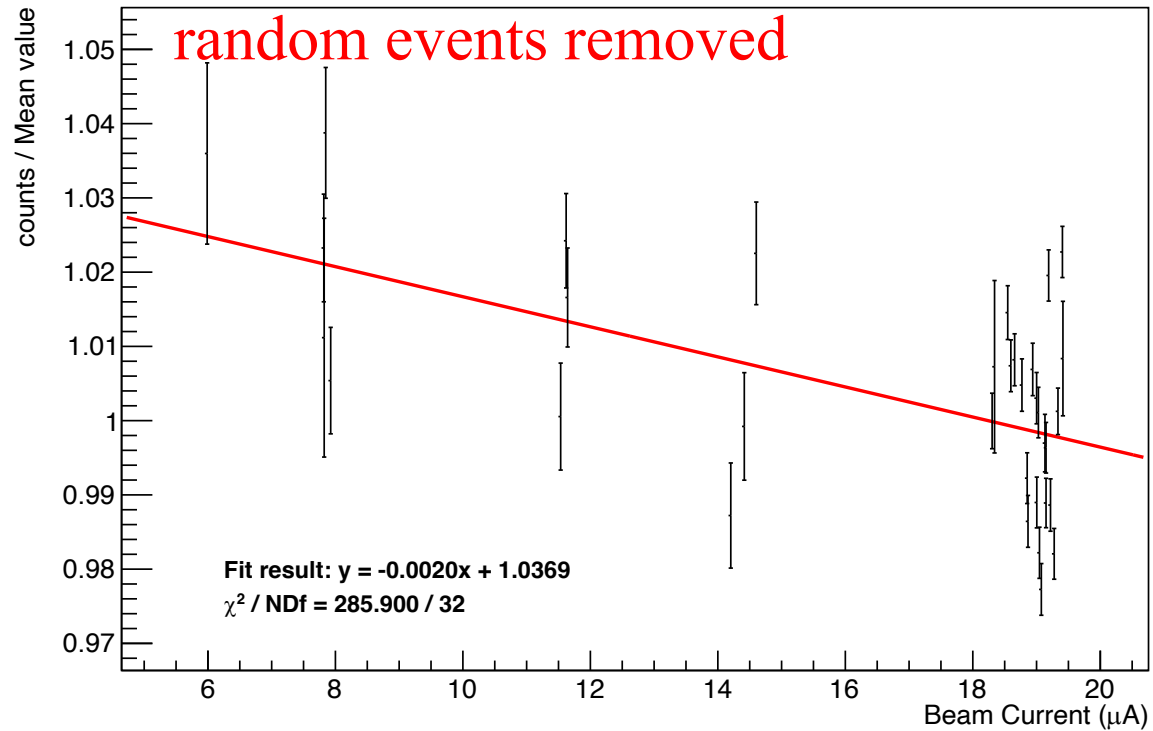
$145 < \text{clusT} < 155$

EDTM Live Time Correction

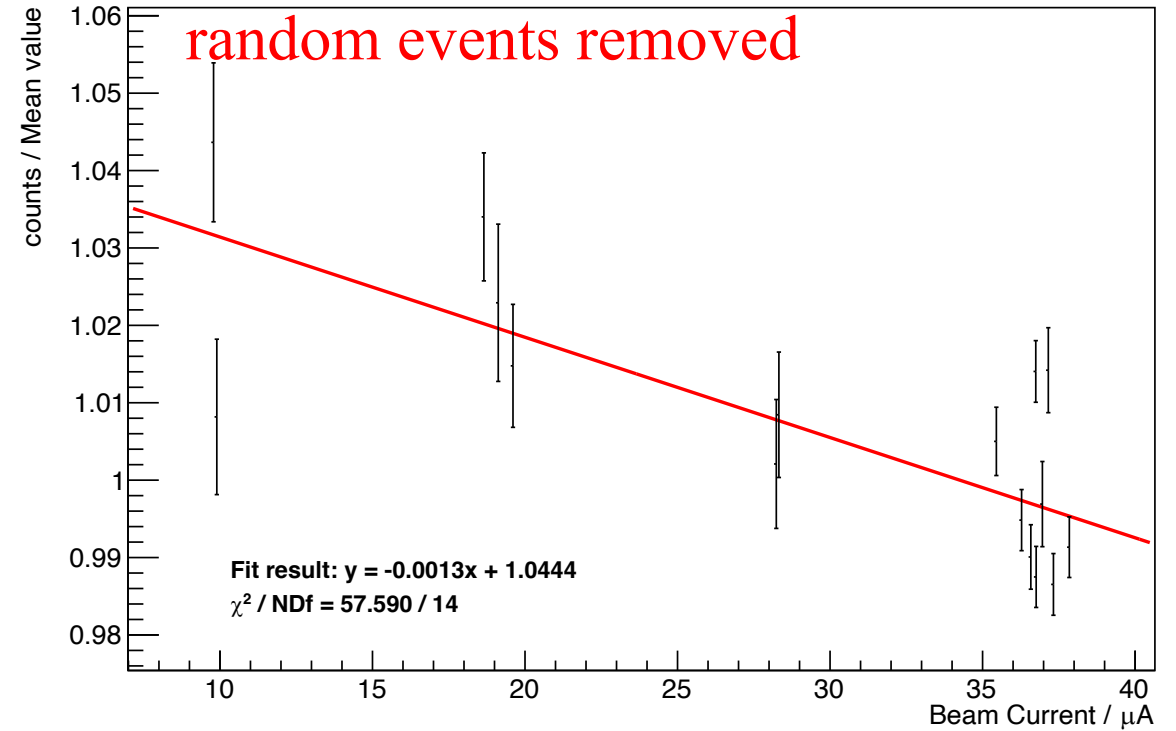
Include col 1-28

Charge normalized DVCS events(LD2) / Mean value

Charge normalized DVCS events(LH2) / Mean value



LD2



LH2

DVCS charge normalized yield

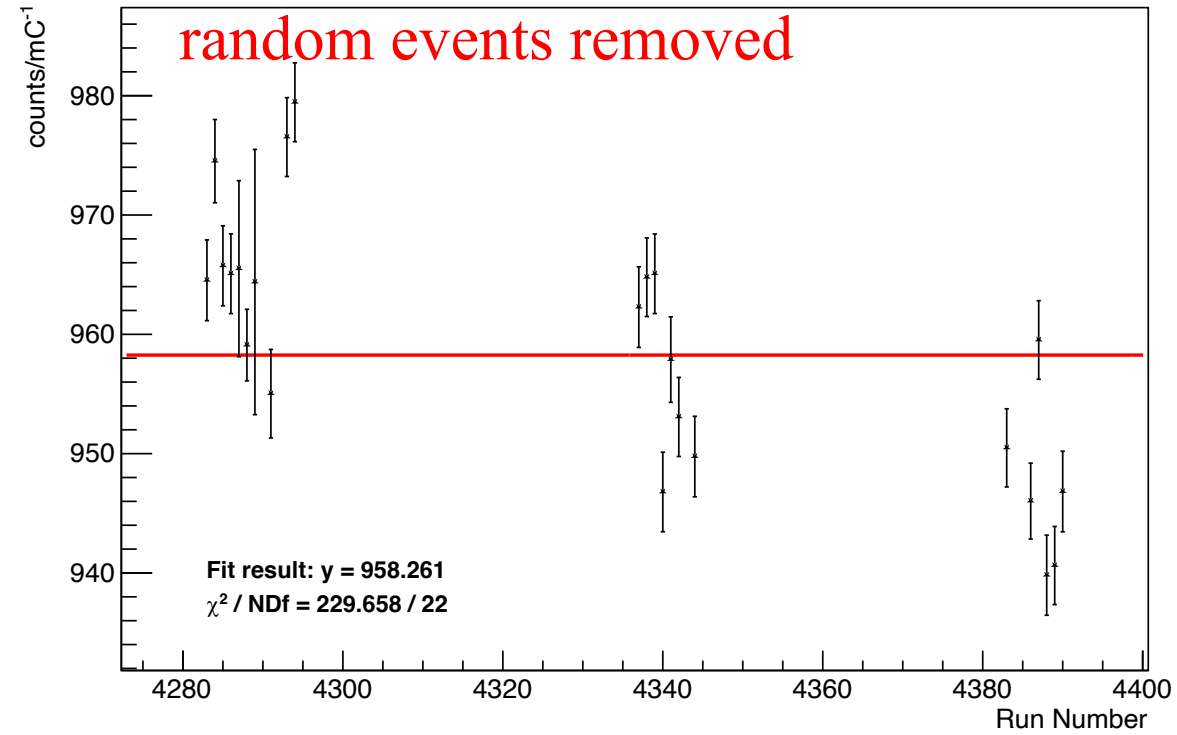
dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

$145 < \text{clusT} < 155$

Include col 1-28

TI Live Time Correction

Charge normalized DVCS events(LD2)



20 uA runs

DVCS charge normalized yield

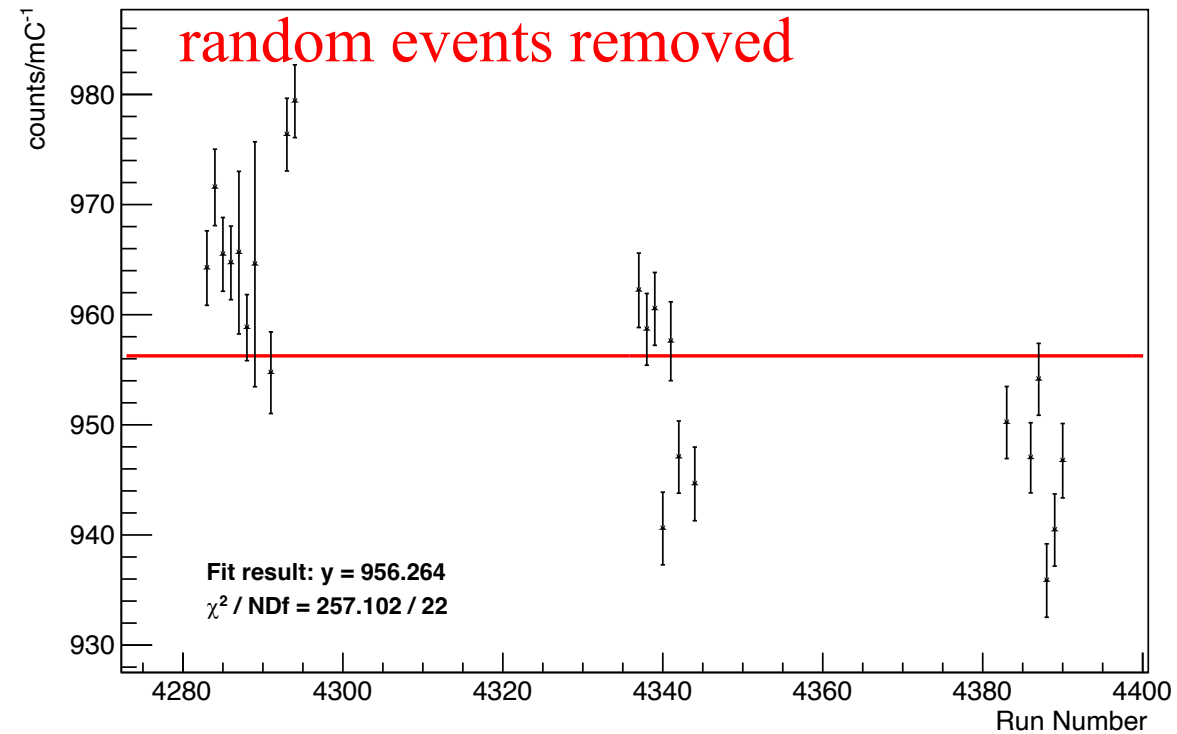
dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

$145 < \text{clusT} < 155$

Include col 1-28

EDTM Live Time Correction

Charge normalized DVCS events(LD2)



20 uA runs

DVCS charge normalized yield

dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

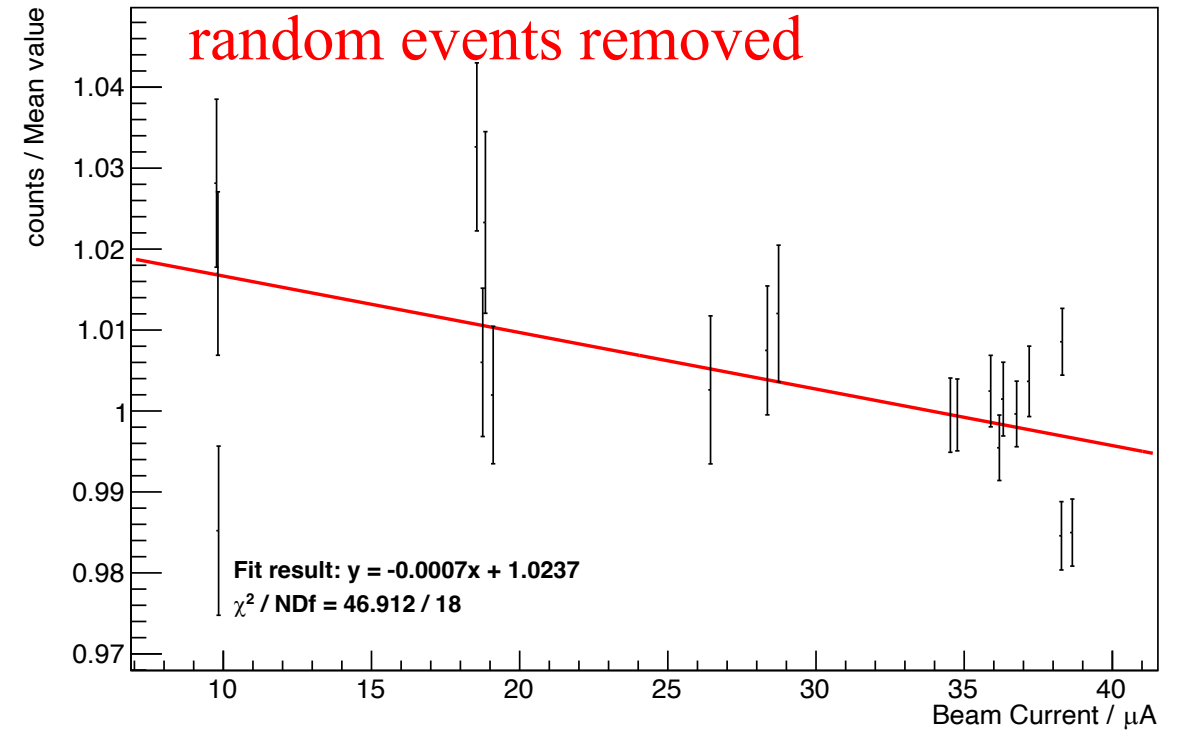
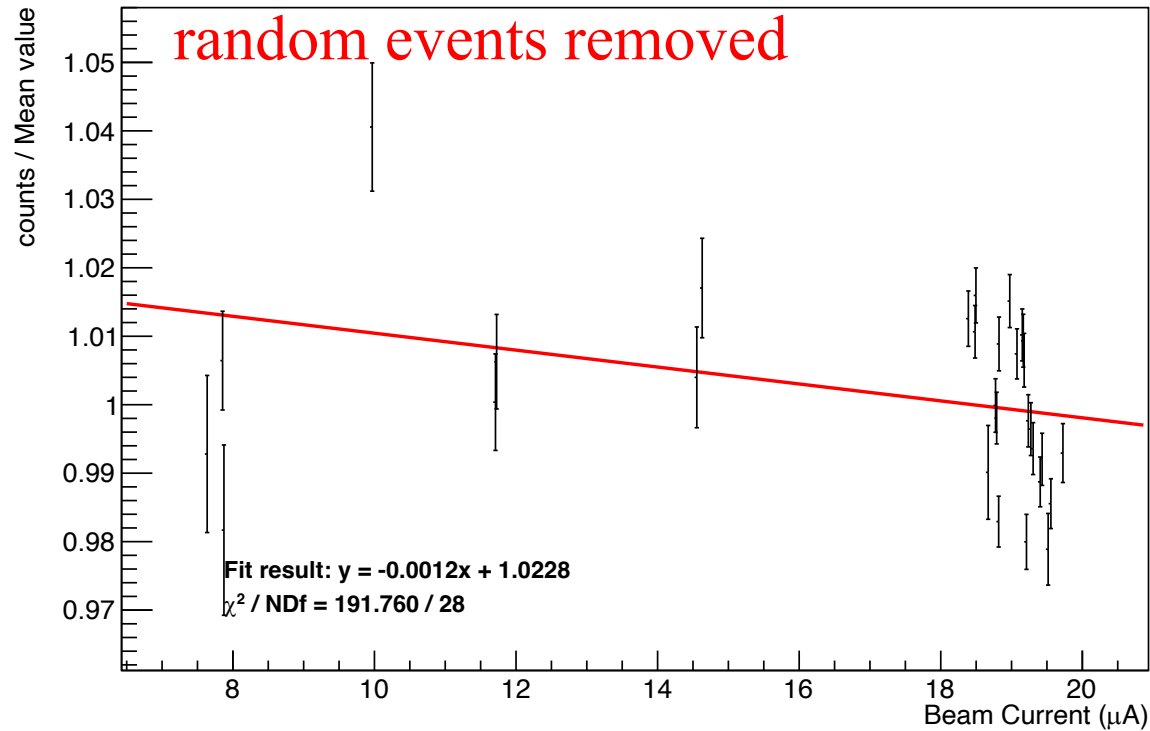
$145 < \text{clusT} < 155$

TI Live Time Correction

Include col 1-28

Charge normalized DVCS events(LD2) / Mean value

Charge normalized DVCS events(LH2) / Mean value



LD2

LH2

DVCS charge normalized yield

dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

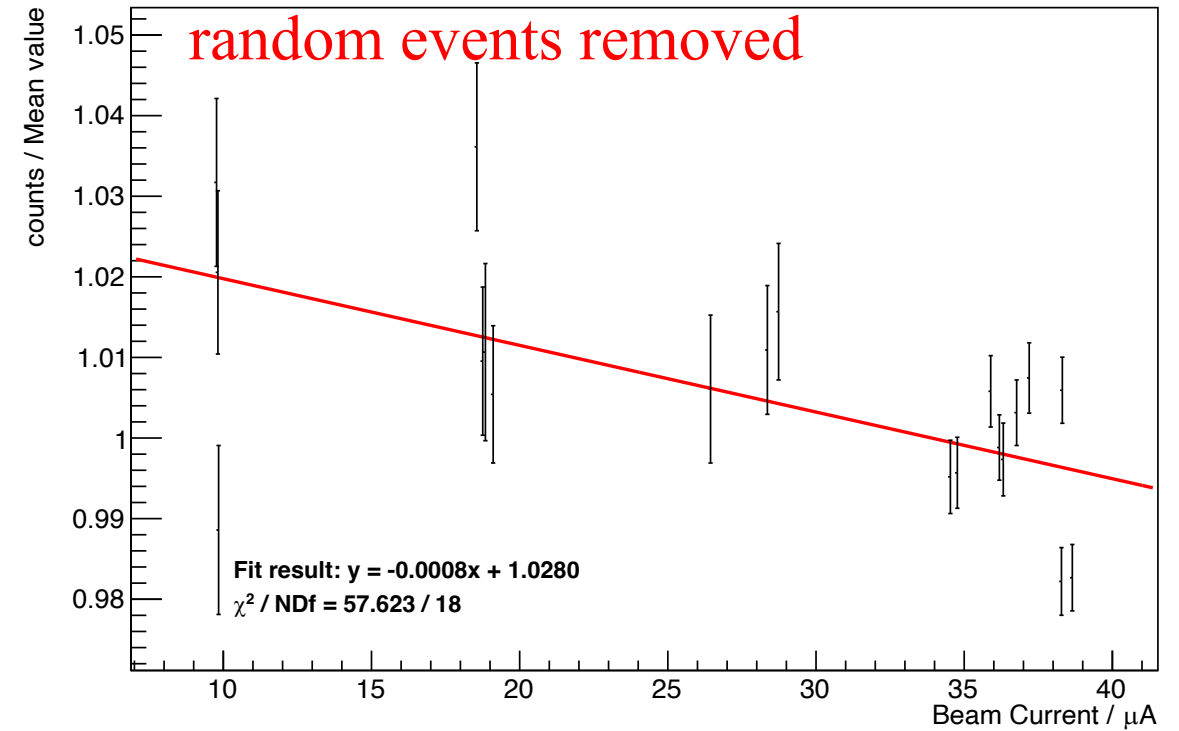
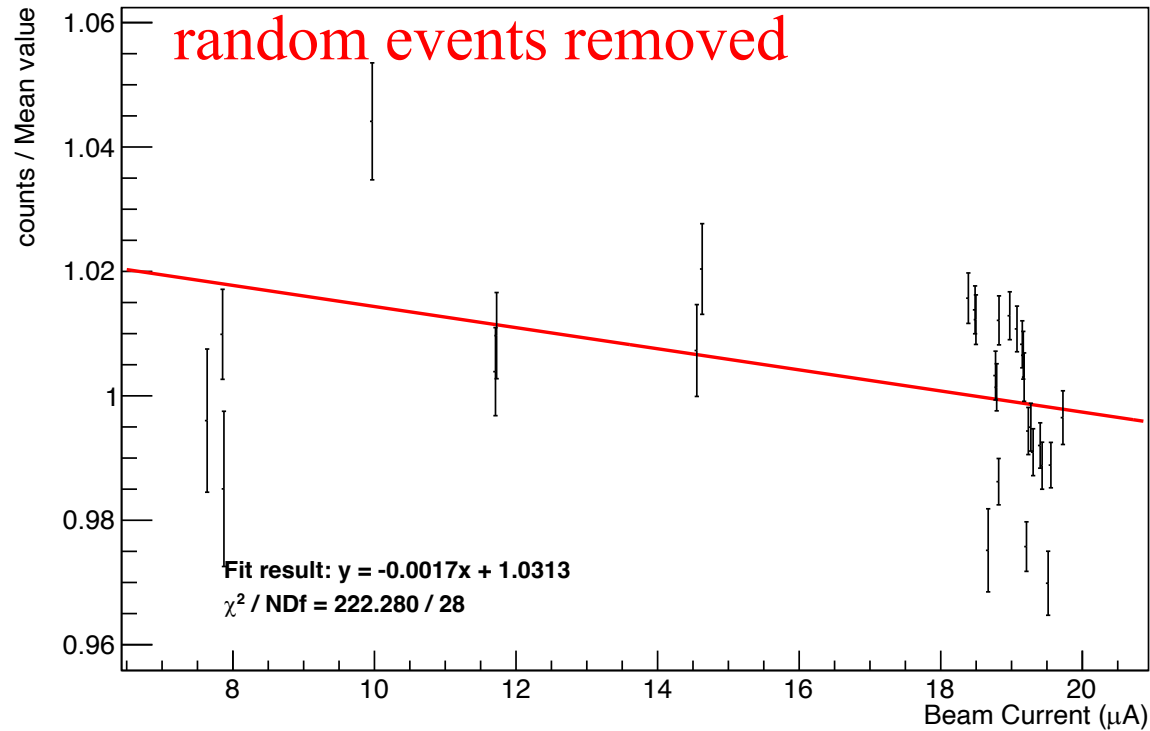
$145 < \text{clusT} < 155$

EDTM Live Time Correction

Include col 1-28

Charge normalized DVCS events(LD2) / Mean value

Charge normalized DVCS events(LH2) / Mean value



LD2

LH2

DVCS charge normalized yield

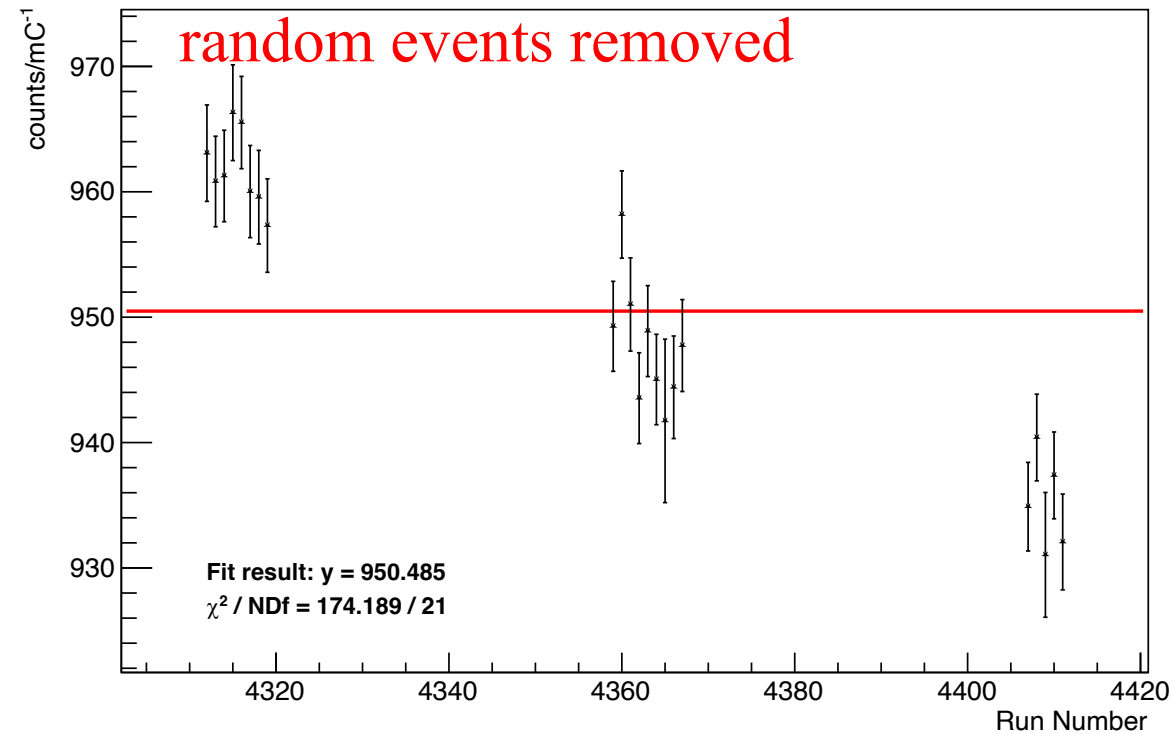
dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

$145 < \text{clusT} < 155$

Include col 1-28

TI Live Time Correction

Charge normalized DVCS events(LD2)



20 uA runs

DVCS charge normalized yield

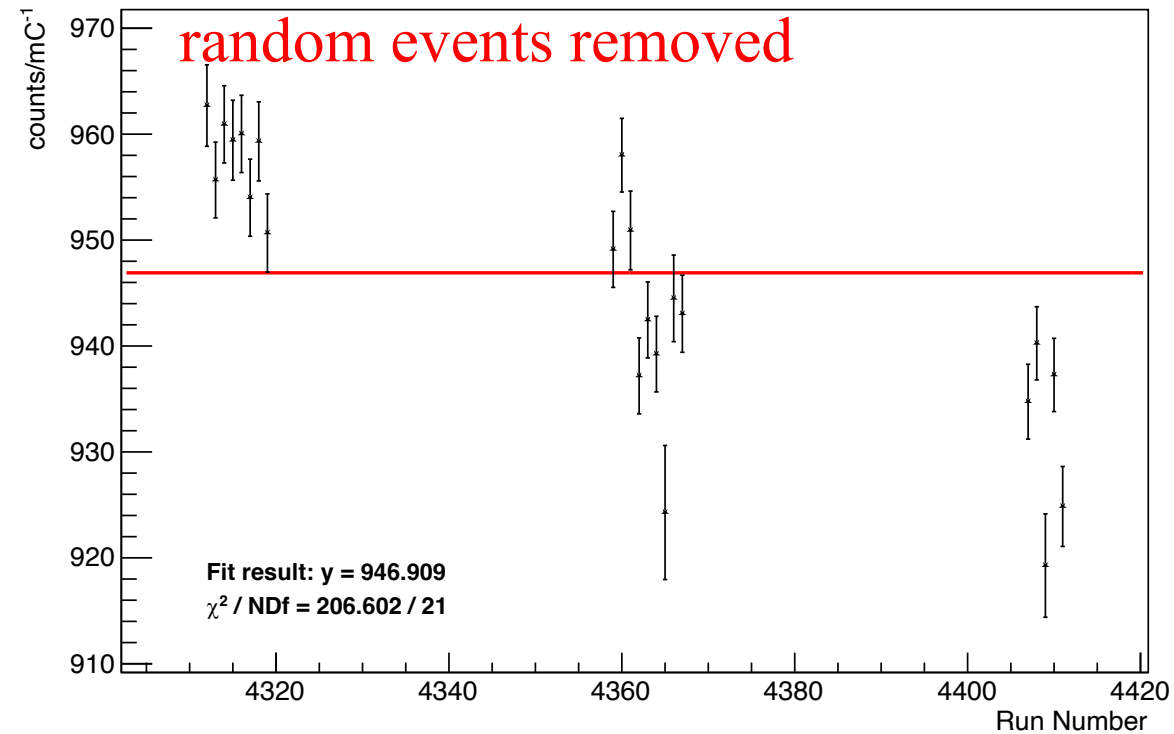
dvcs selection: $E_{\text{max}} > 2 \text{ GeV}$

$145 < \text{clusT} < 155$

Include col 1-28

EDTM Live Time Correction

Charge normalized DVCS events(LD2)



20 uA runs