

Krypton Calibration

Run 7544

Krypton Calibration Group

Table: Conditions and data for run 7544

Conditions	Data
run number	7544
file range	(0,2767)
date	2019-09-22
lab temperature:	20.0 deg
Total number of S2s	1745171
Total number of events	1498696

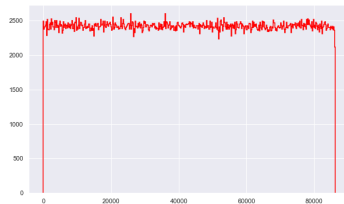
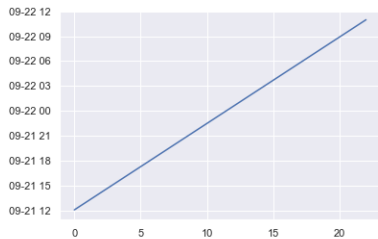


Figure: Run data.

Table: S1 & S2 for run 7544

Conditions	Data
fraction of S1s	0.78
fraction of S2s (1 S1)	0.97
fraction 1 S2 & 1 S1	0.75

Table: S1 & S2 selection for run 7544

Variables	Data
s_1 energy	3 pes to 25 pes
s_2 energy (PMTs)	3000 pes to 13000 pes
s_2 charge (SiPMs)	200 pes to 800 pes
s_2 width	$5 \mu s$ to $15 \mu s$
n_{sipm} min	15

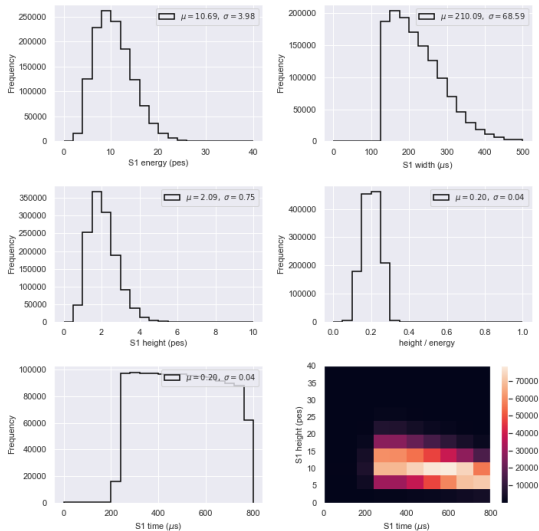


Figure: S1 distributions.

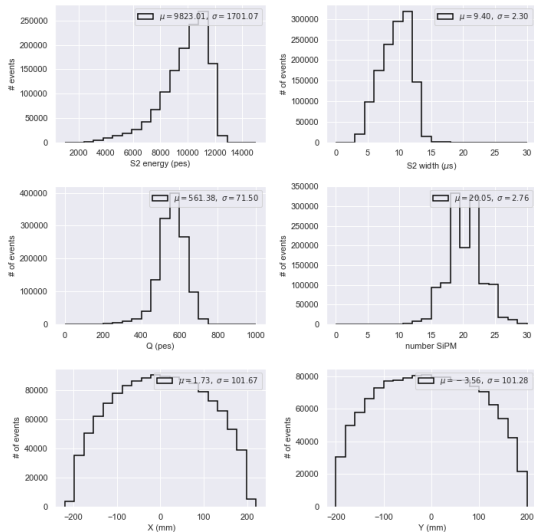


Figure: S2 distributions.

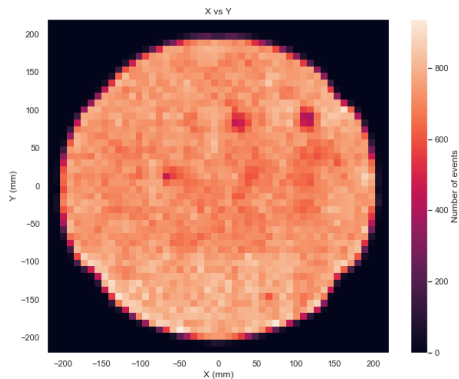


Figure: XY distribution.

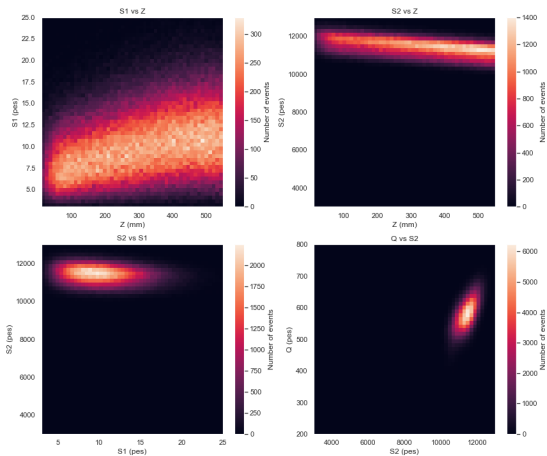


Figure: S1, S2 & Q distributions.

Lifetime distributions

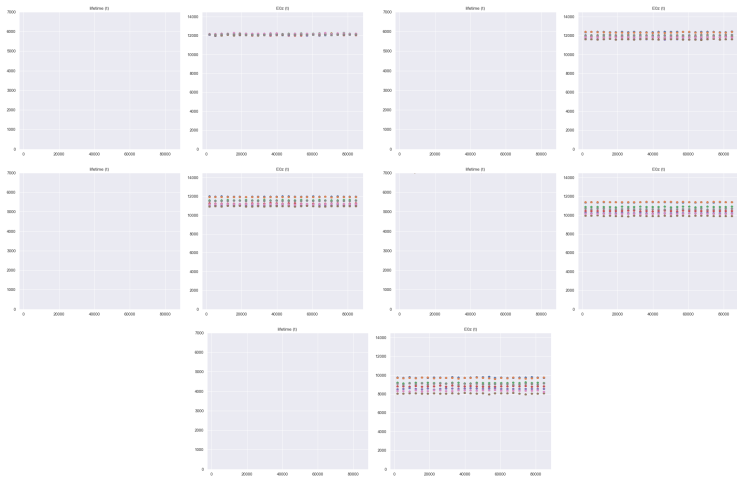


Figure: Distributions of lifetime and E_0 for 5 radial sectors (40, 80, 120, 160, 200).

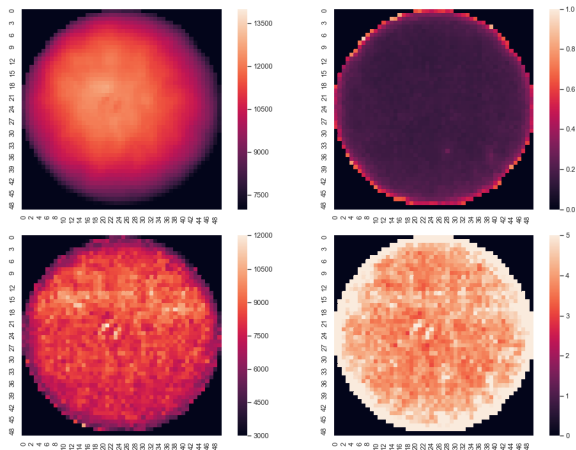


Figure: Lifetime and geometrical map.

Lifetime maps

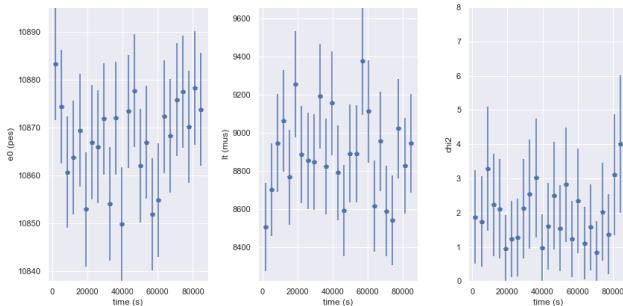


Figure: Average lifetime.

Lifetime and geometry correction

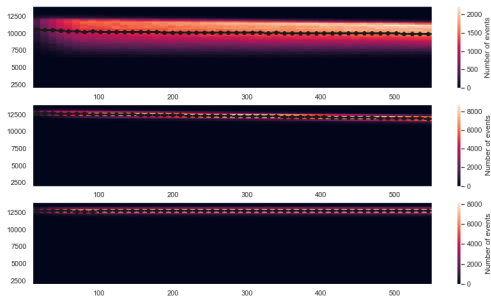


Figure: Lifetime and geometry correction.

R Profile showing R dropout

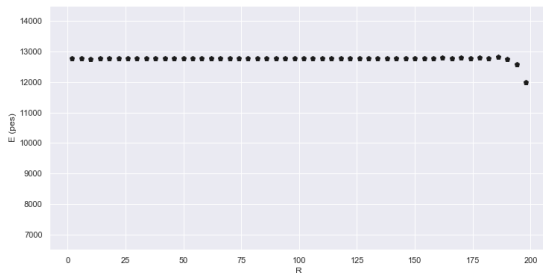


Figure: R profile shows that fiducial volume must be $R < 180\text{mm}$.

Profiles after $R < 180\text{mm}$

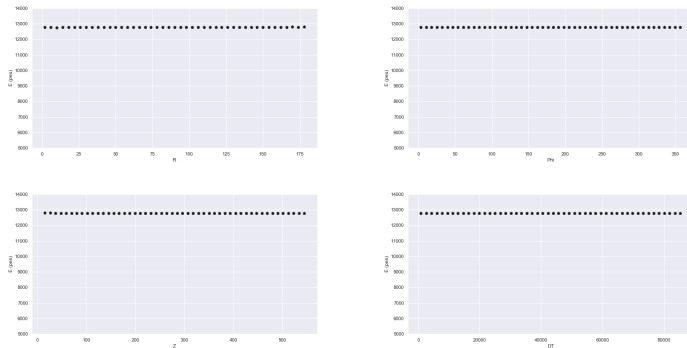


Figure: Profiles showing correction is robust.

Resolution fits as a function of R and Z

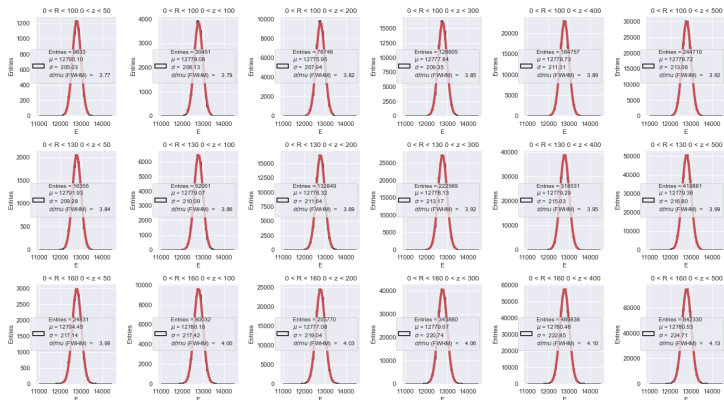


Figure: Resolution fits.

Resolution as a function of R and Z

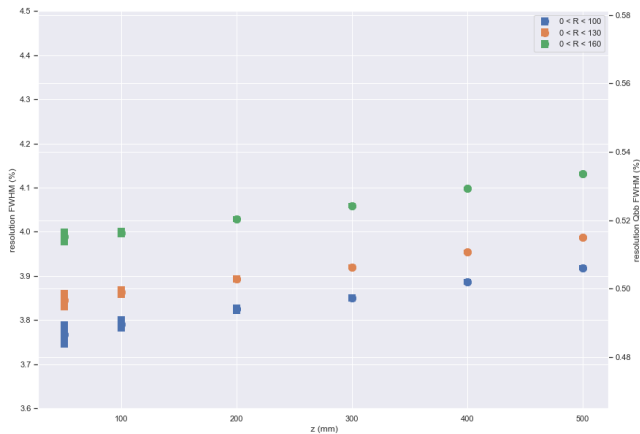


Figure: Resolution fits.

Efficiency over time

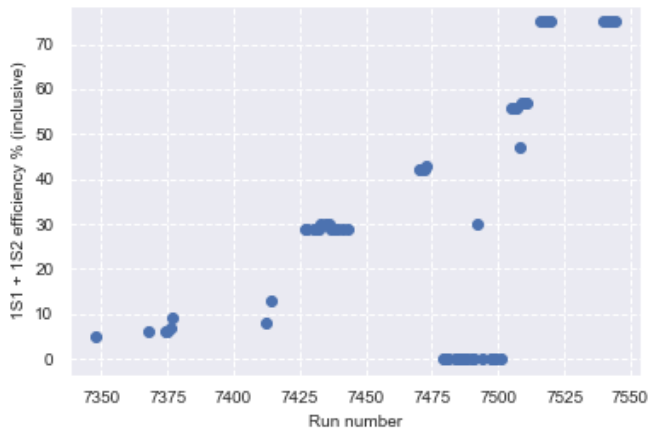


Figure: Efficiency tracking over time.

Response over time

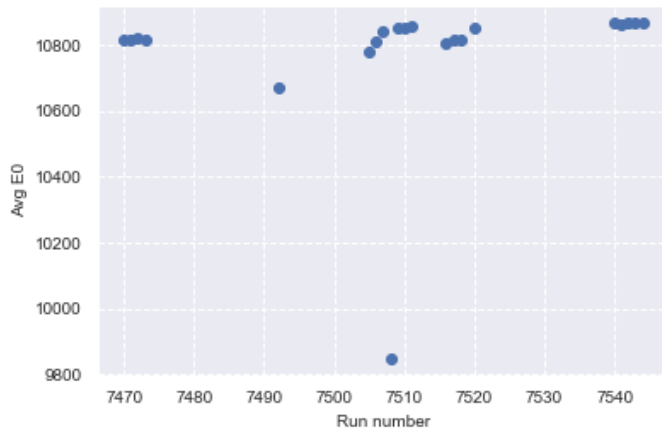
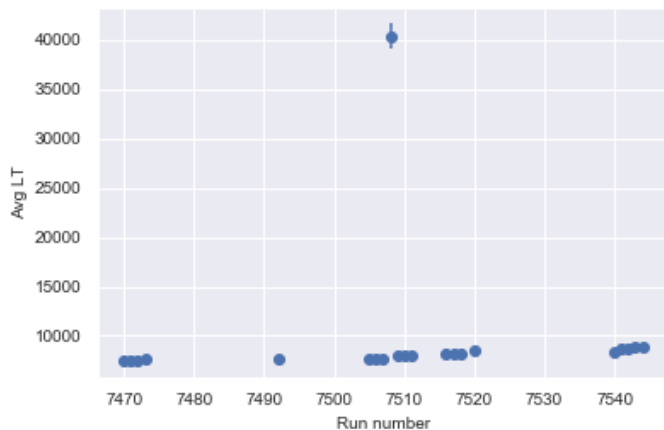


Figure: Response tracking over time.



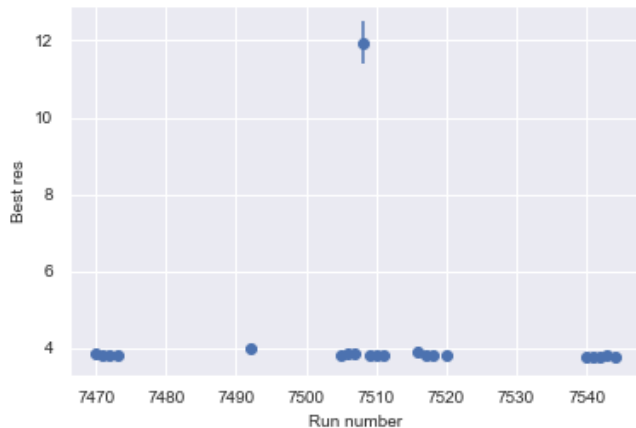


Figure: Resolution tracking over time.