

# Krypton Calibration

Run 7993

Krypton Calibration Group

**Table:** Conditions and data for run 7993

Conditions	Data
run number	7993
file range	(0,3941)
date	2020-05-05
lab temperature:	20.1 deg
Total number of S2s	1231456
Total number of events	1057733

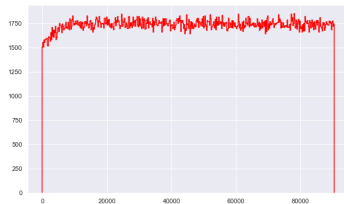
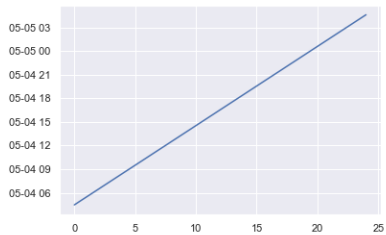


Figure: Run data.

Table: S1 &amp; S2 for run 7993

Conditions	Data
fraction of S1s	0.77
fraction of S2s (1 S1)	0.98
fraction 1 S2 & 1 S1	0.75

Table: S1 &amp; S2 selection for run 7993

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

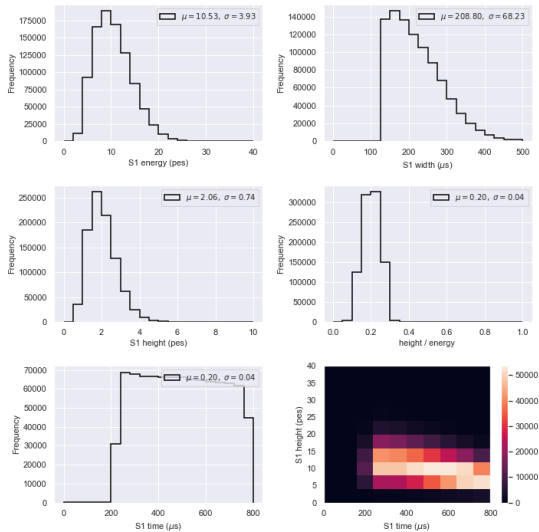


Figure: S1 distributions.

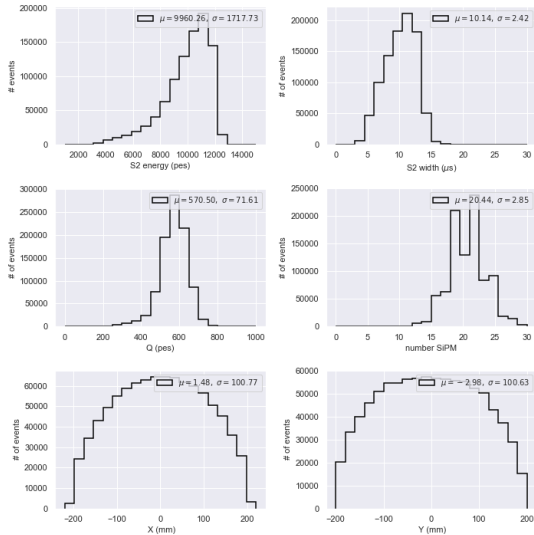


Figure: S2 distributions.

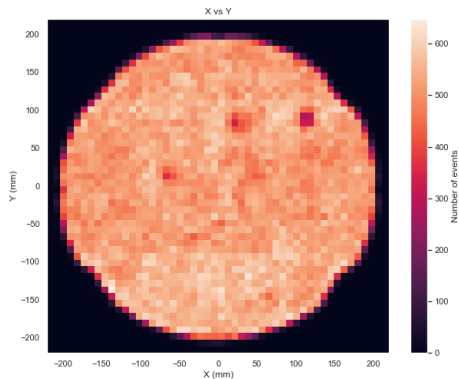


Figure: XY distribution.

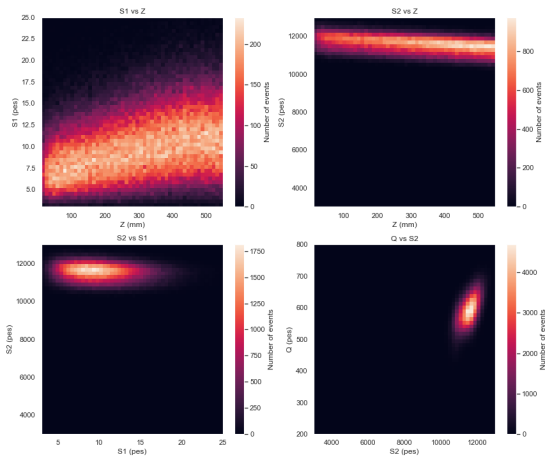


Figure: S1, S2 & Q distributions.



# Lifetime distributions

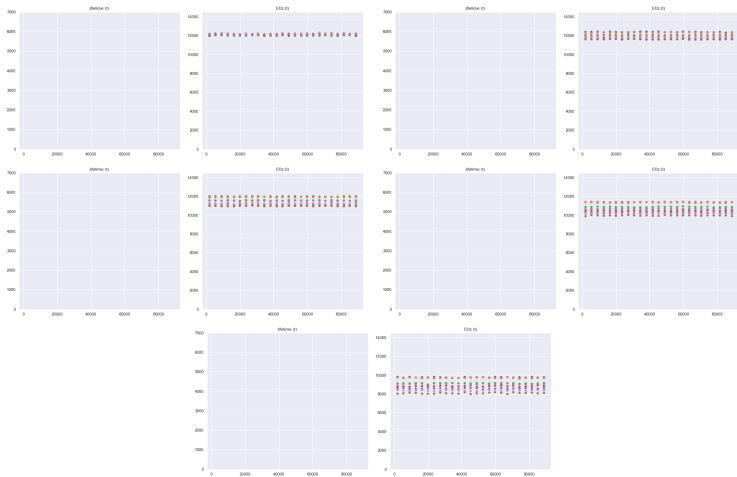


Figure: Distributions of lifetime and  $E_0$  for 5 radial sectors (40, 80, 120, 160, 200).

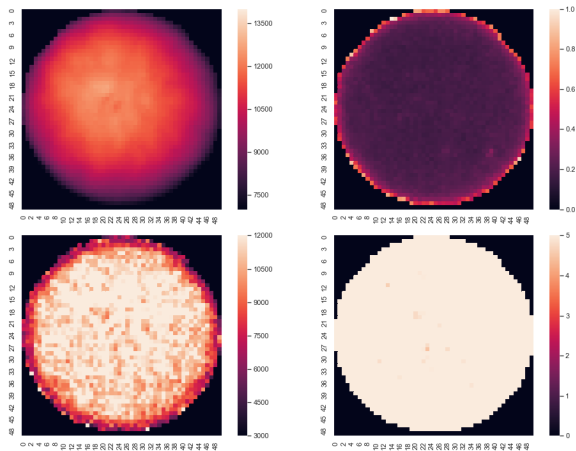


Figure: Lifetime and geometrical map.

# Lifetime maps

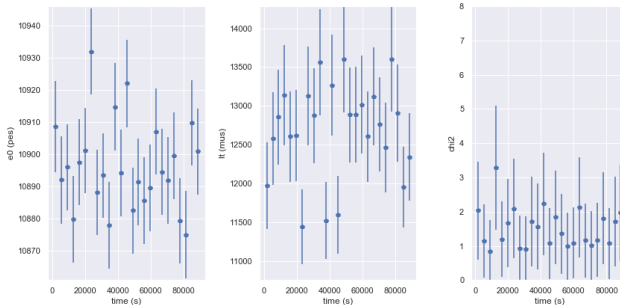


Figure: Average lifetime.

# Lifetime and geometry correction

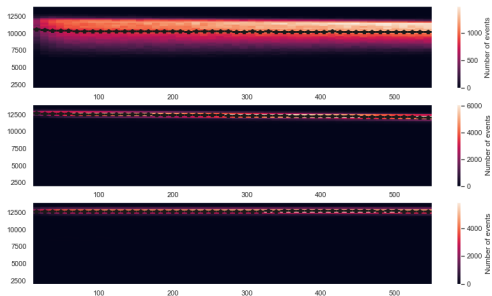


Figure: Lifetime and geometry correction.

## R Profile showing R dropout

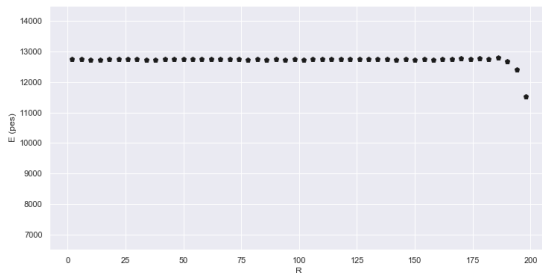


Figure: R profile shows that fiducial volume must be  $R < 180$ mm.

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

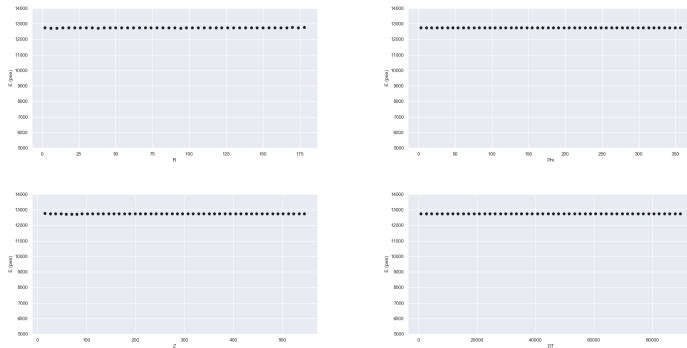


Figure: Profiles showing correction is robust.

# Resolution fits as a function of R and Z

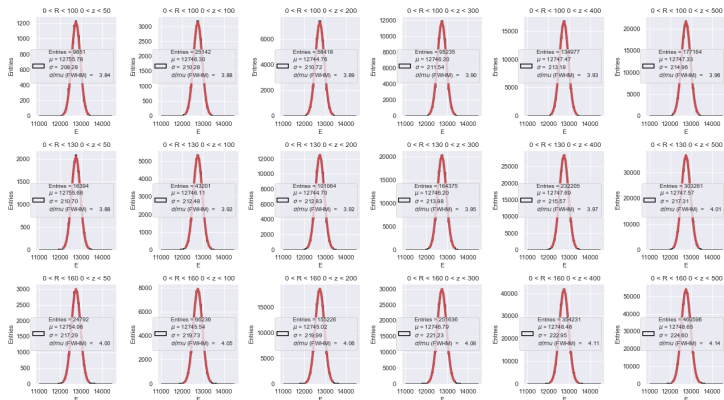


Figure: Resolution fits.

# Resolution as a function of R and Z

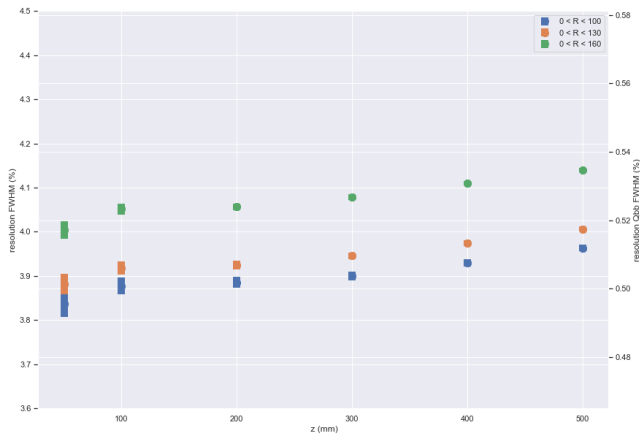


Figure: Resolution fits.



# Efficiency over time

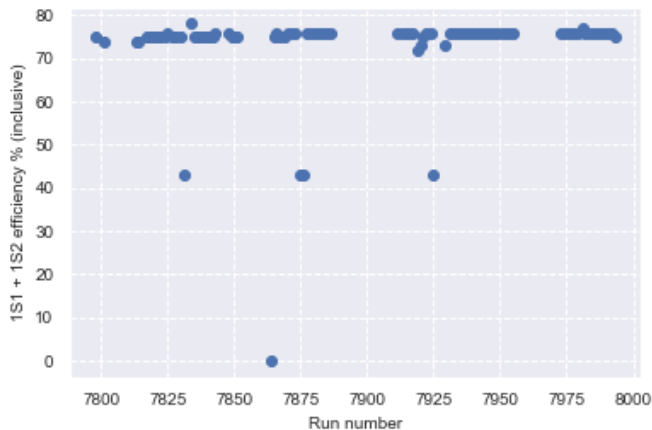


Figure: Efficiency tracking over time.

# Response over time

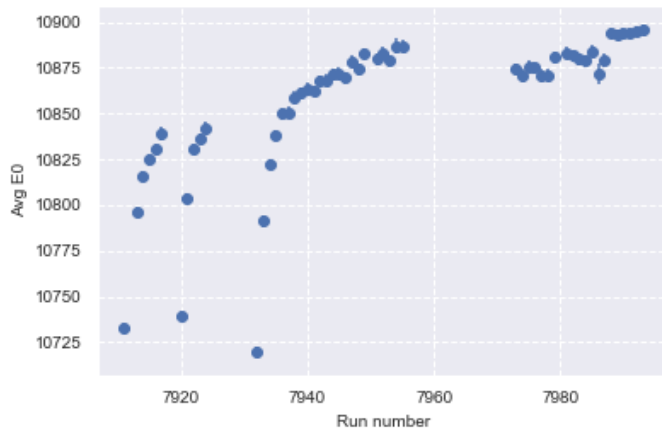


Figure: Response tracking over time.

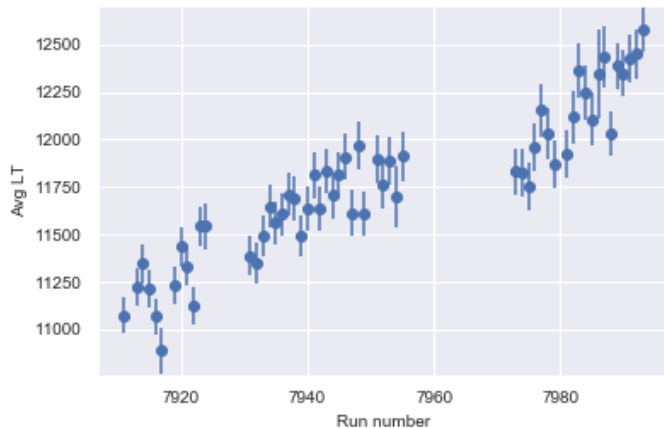


Figure: Lifetime tracking over time.

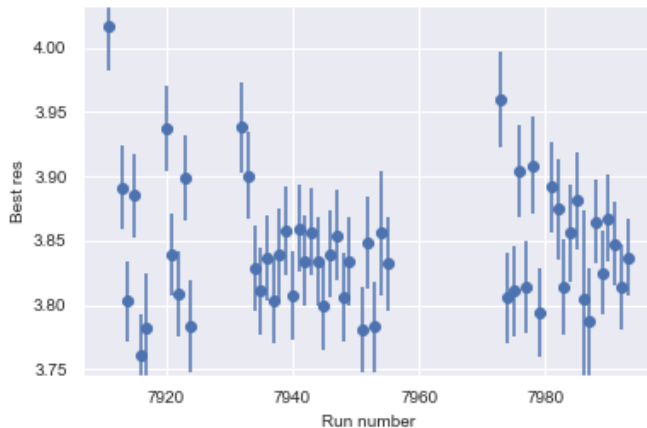


Figure: Resolution tracking over time.