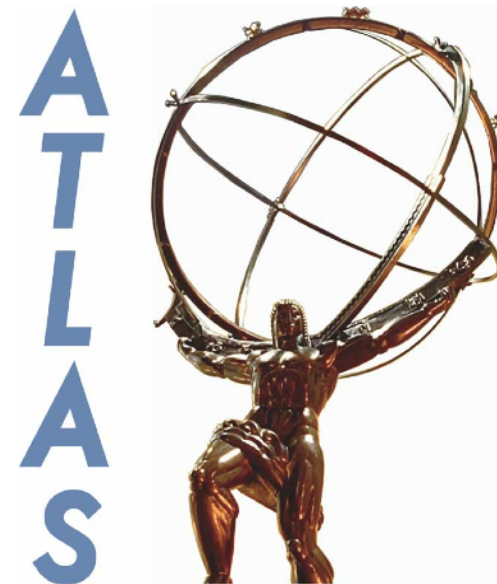


Stave Cooling Pipe Temperature

William Heidorn, Jie Yu

Iowa State University

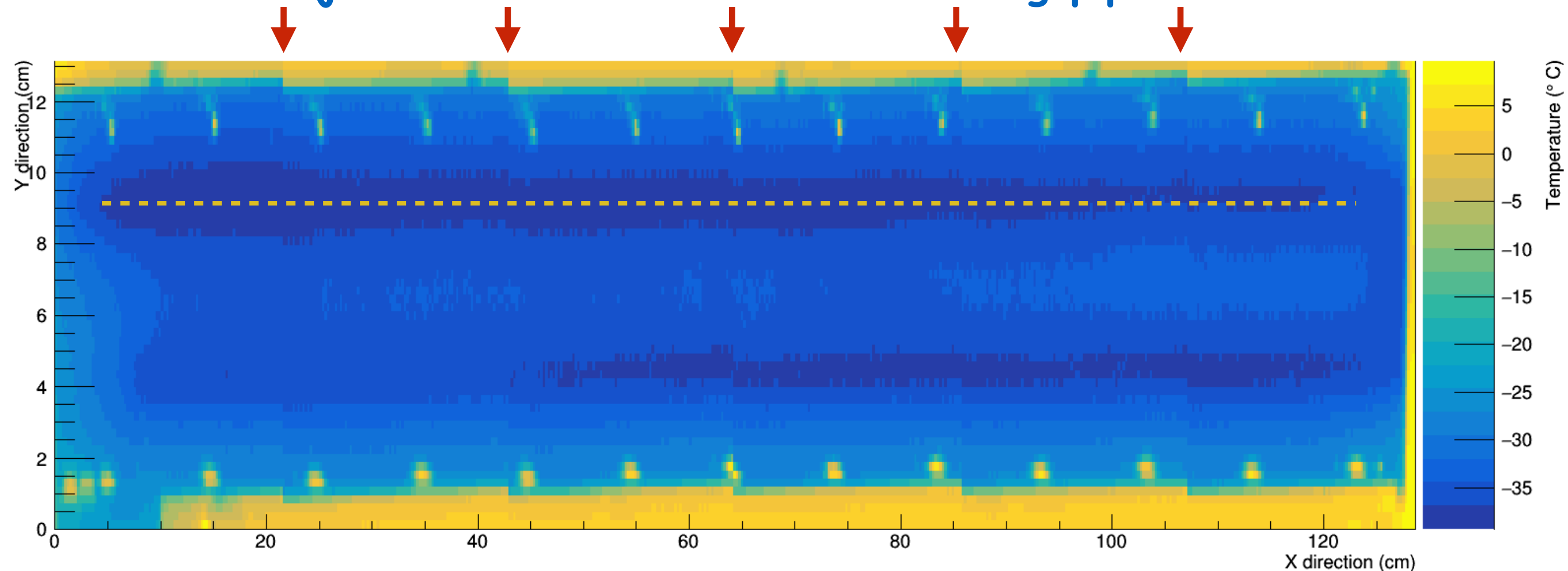
Stave QC discussion, Jan.25.2017



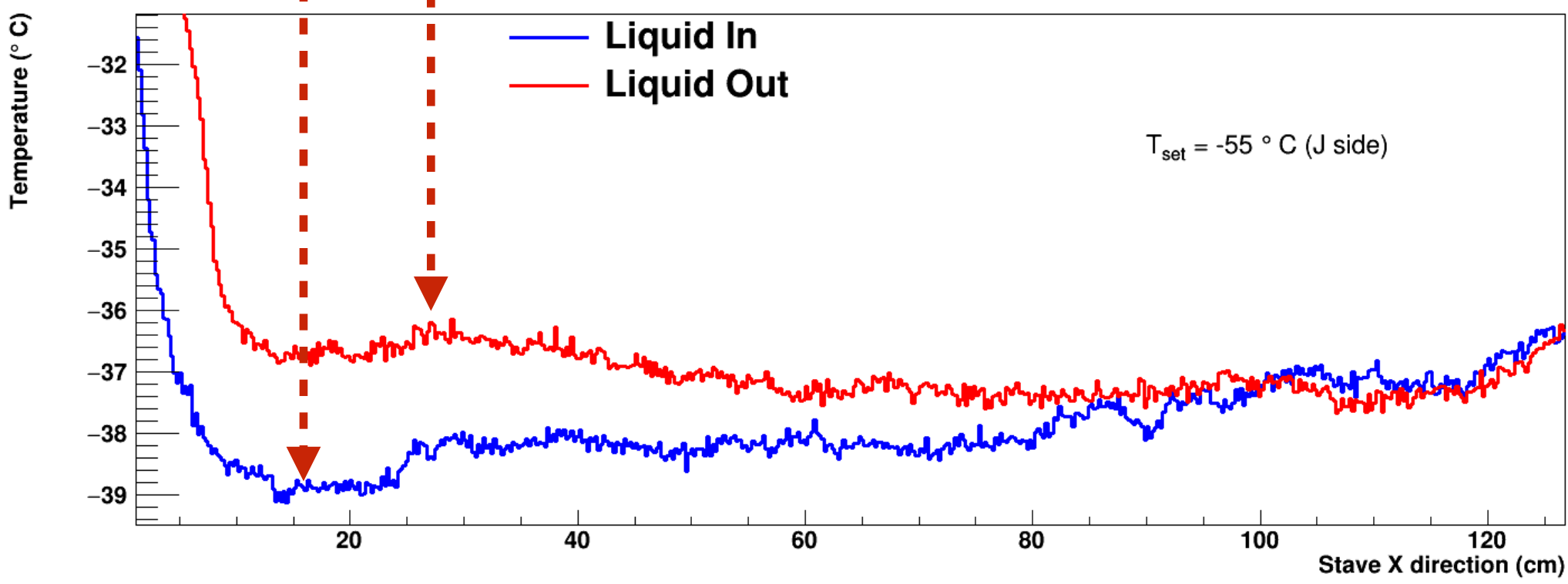
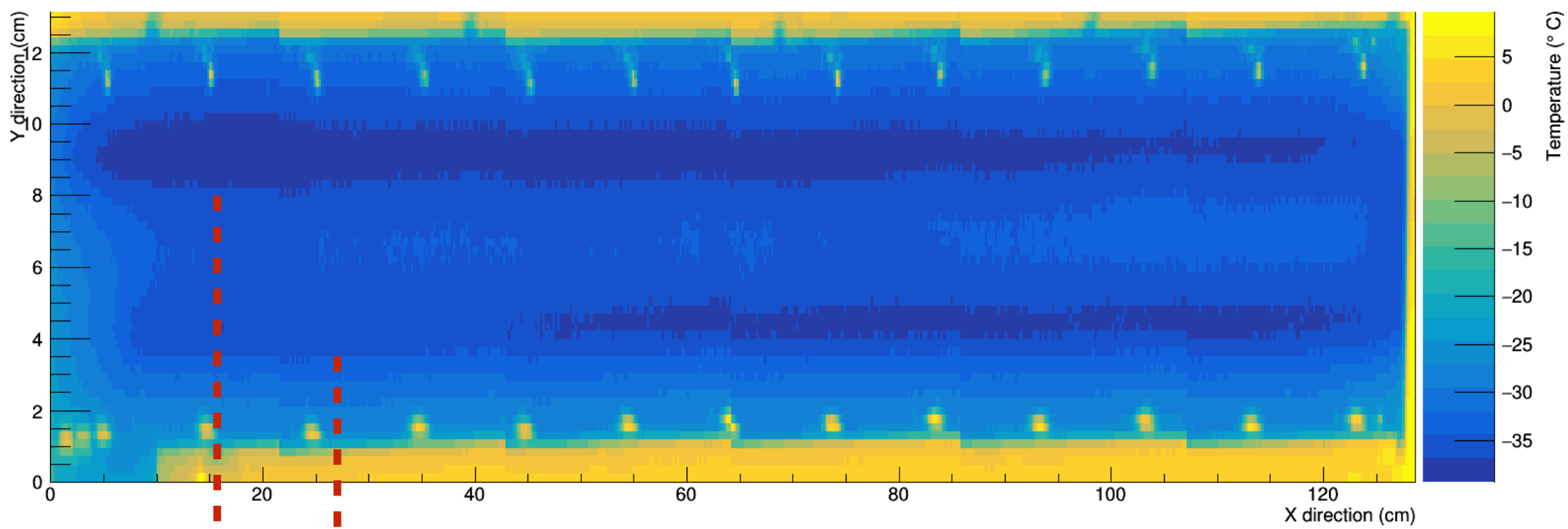
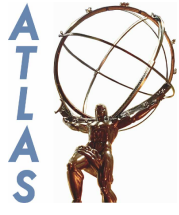
Outline



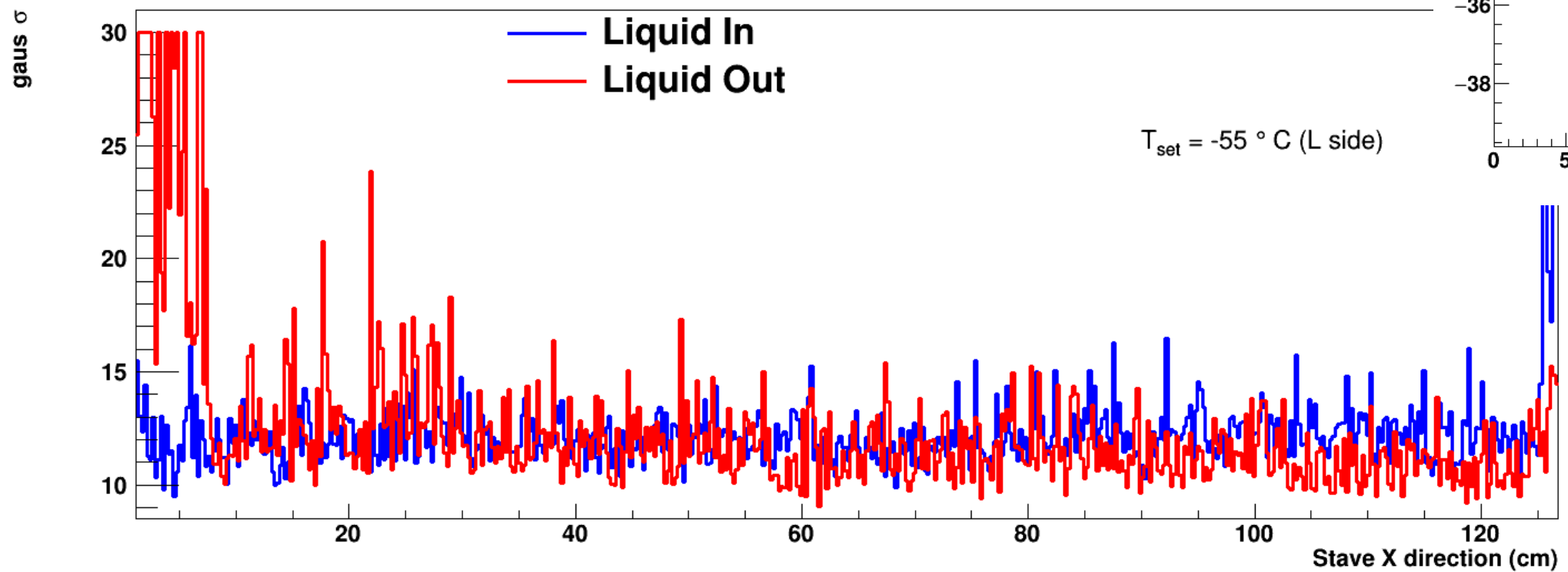
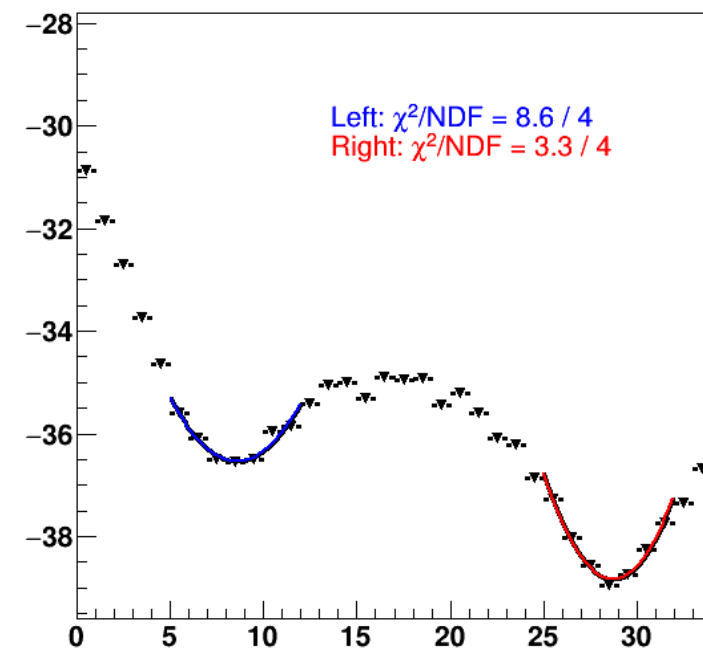
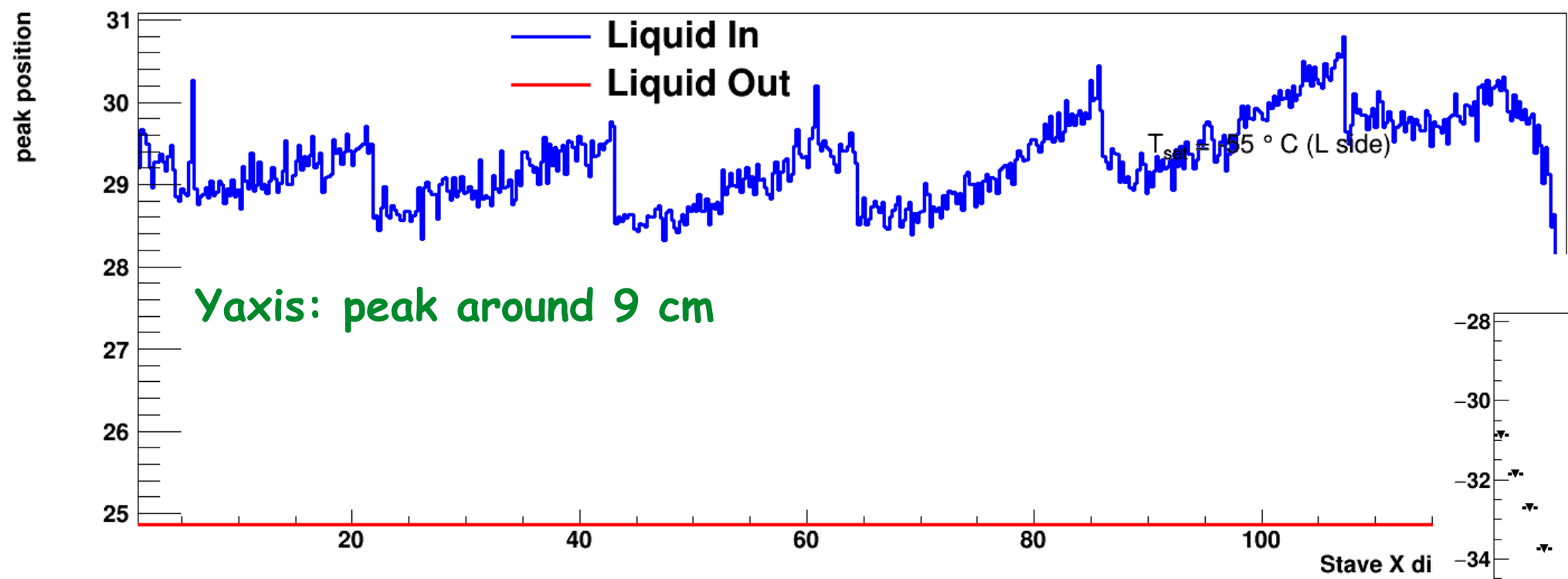
- ◉ Flawless stave.
 - ✦ Chiller at $-55\text{ C} - 50\text{ C}$, every 5 C
 - ✦ Emissivity = 0.9 after data taking.
- ◉ Found a mistake in the previous talk:
 - ✦ The stave image is upside down. Inlet \leftrightarrow outlet exchanged :(
 - ✦ With this fixed, inlet has lower temperature.
- ◉ Stave is adjusted to have a strait line cooling pipe.



Temperature profile @ -55 C

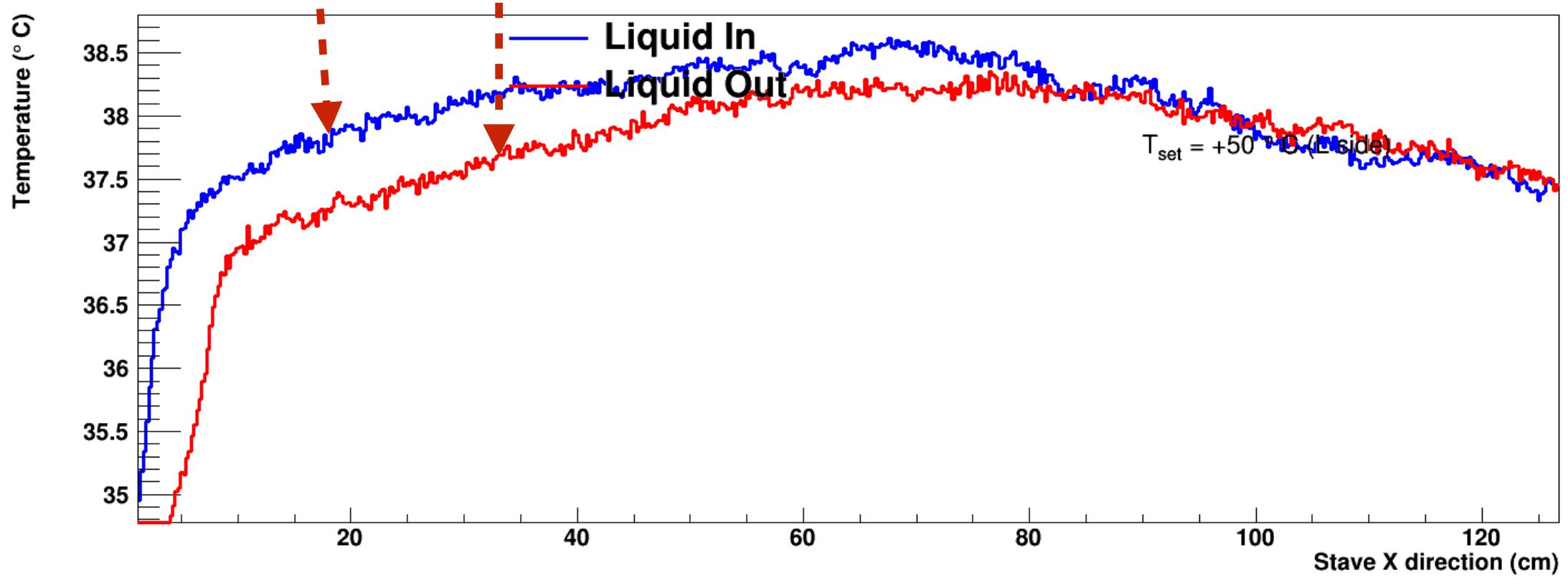
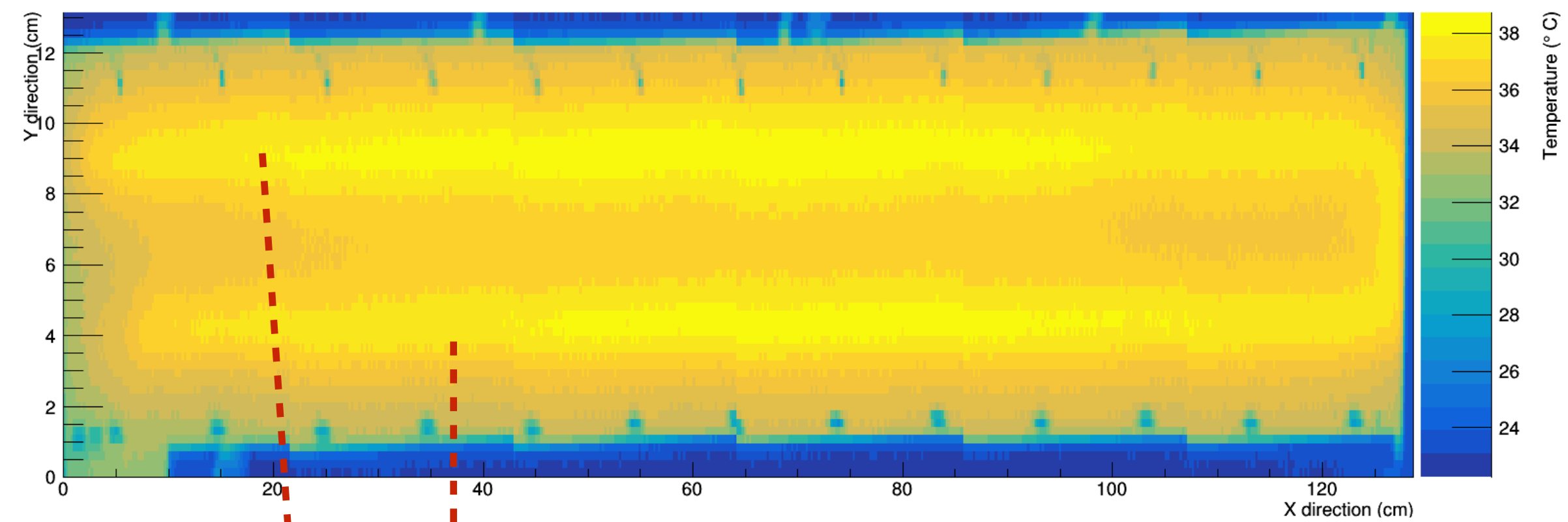


Peak Fit @ -55 C

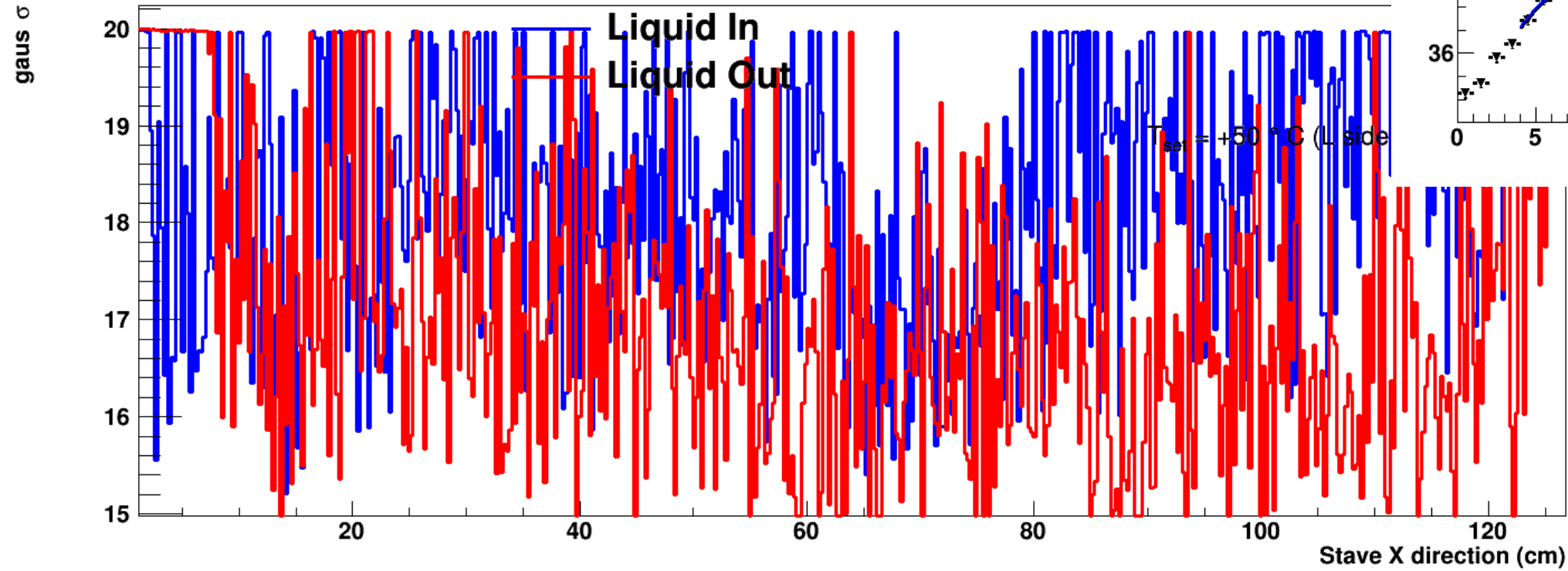
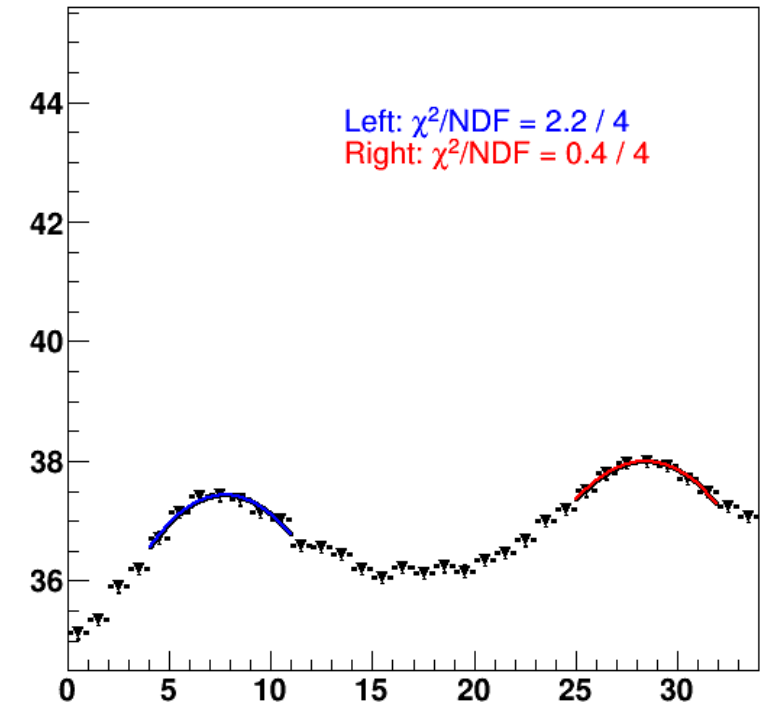
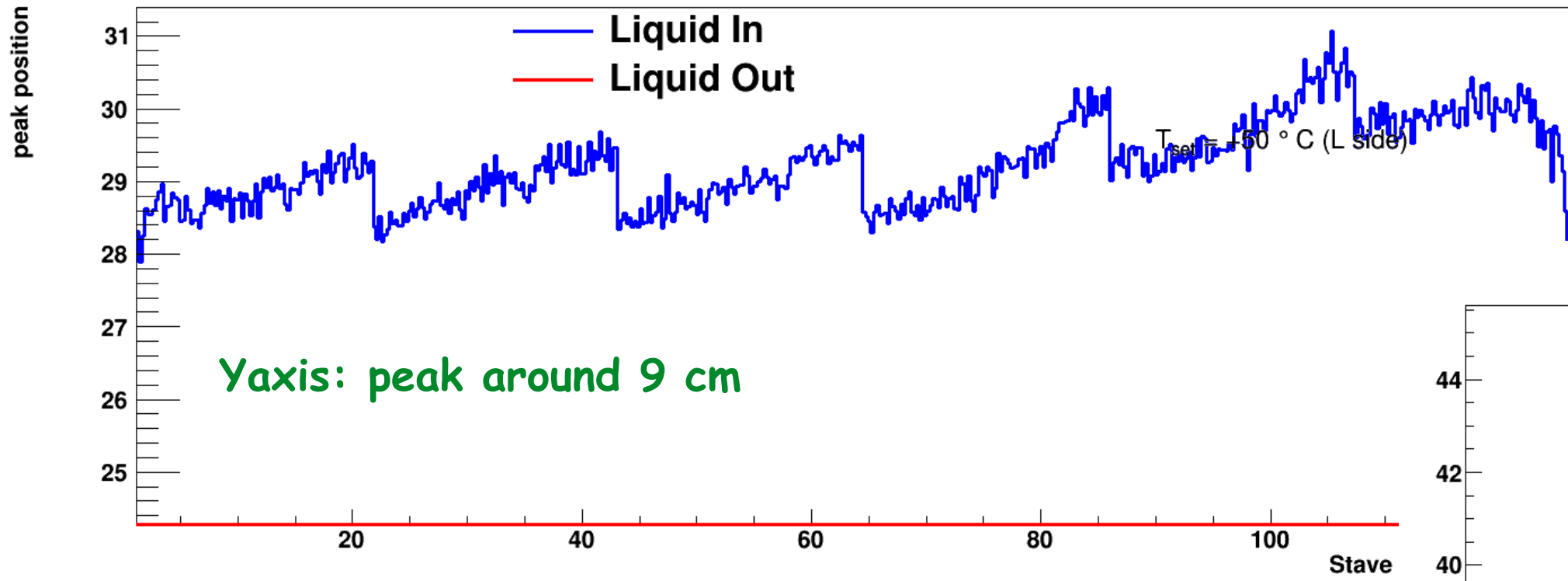


Yaxis @ 23 cm

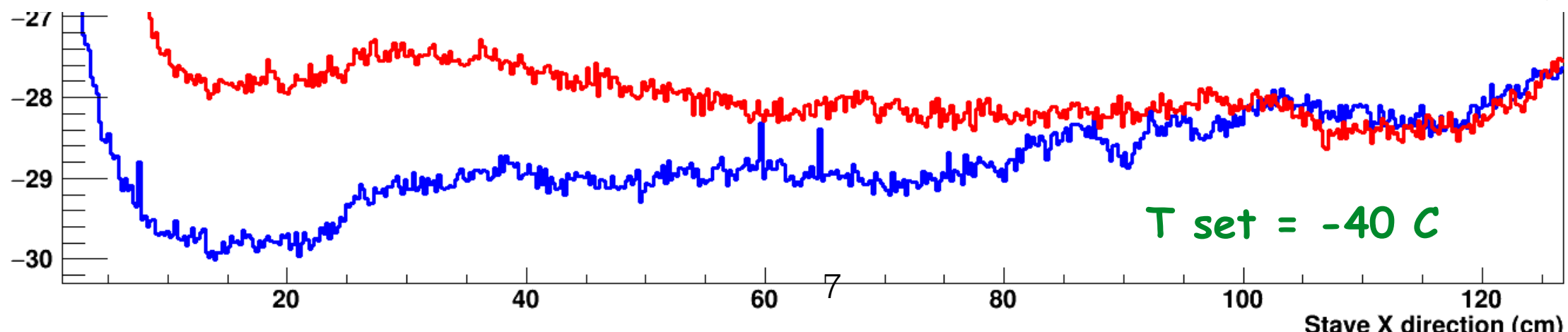
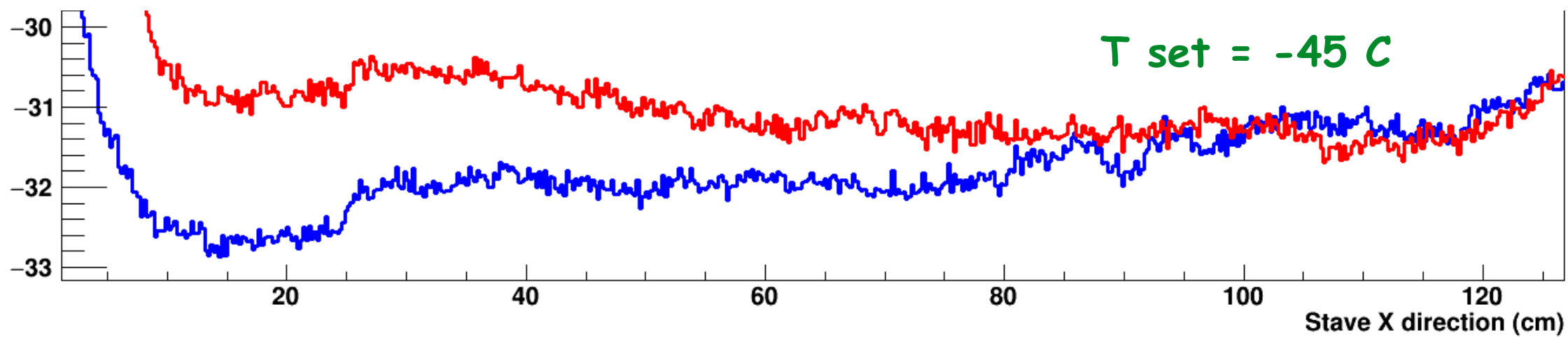
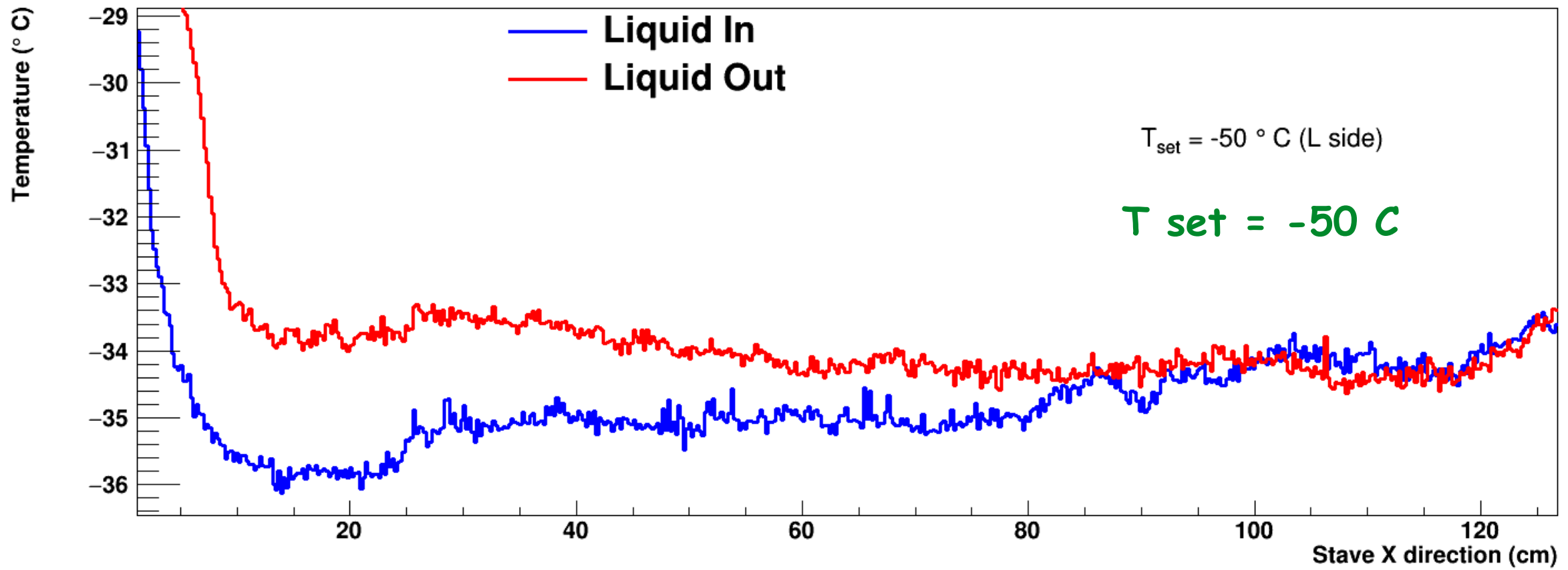
Temperature profile @ +50 C



Peak Fit @ +50 C



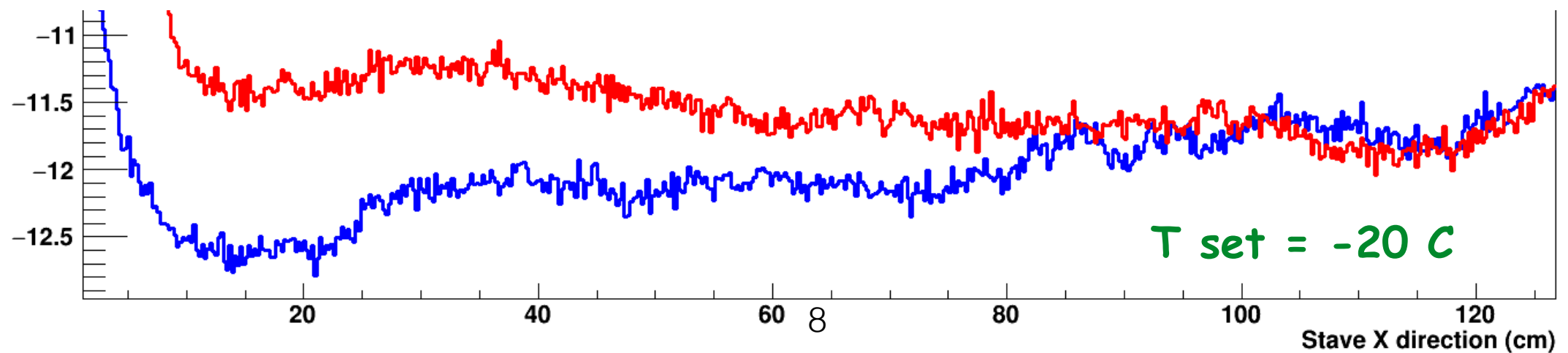
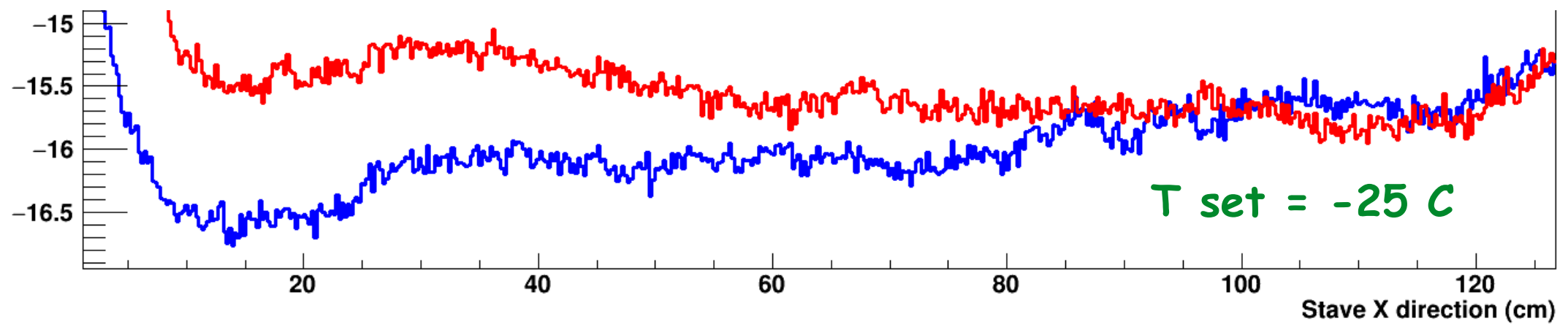
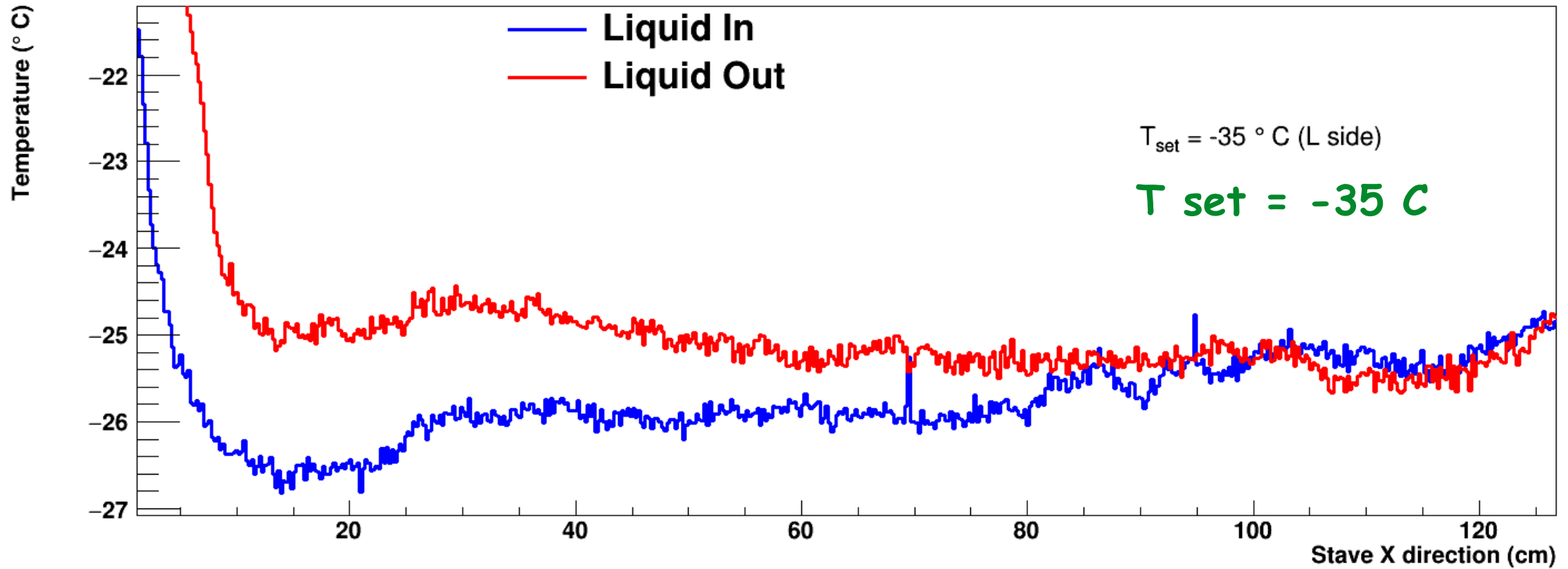
More Temperature profiles



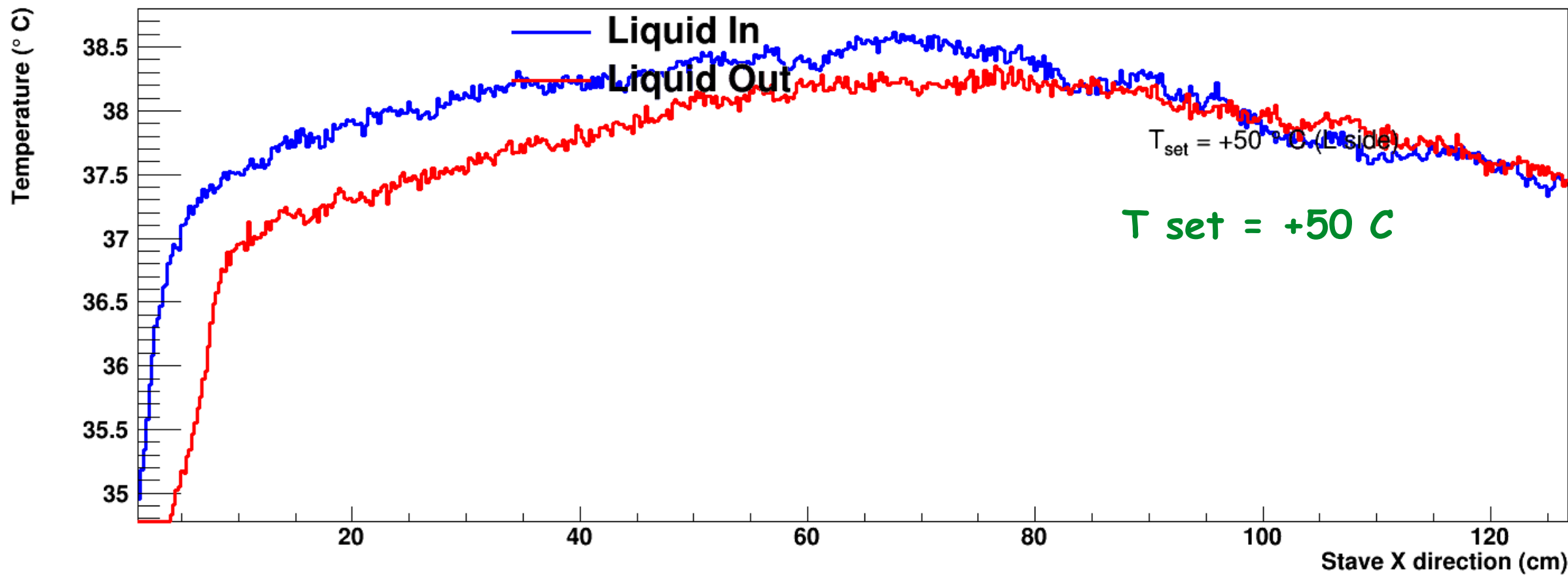
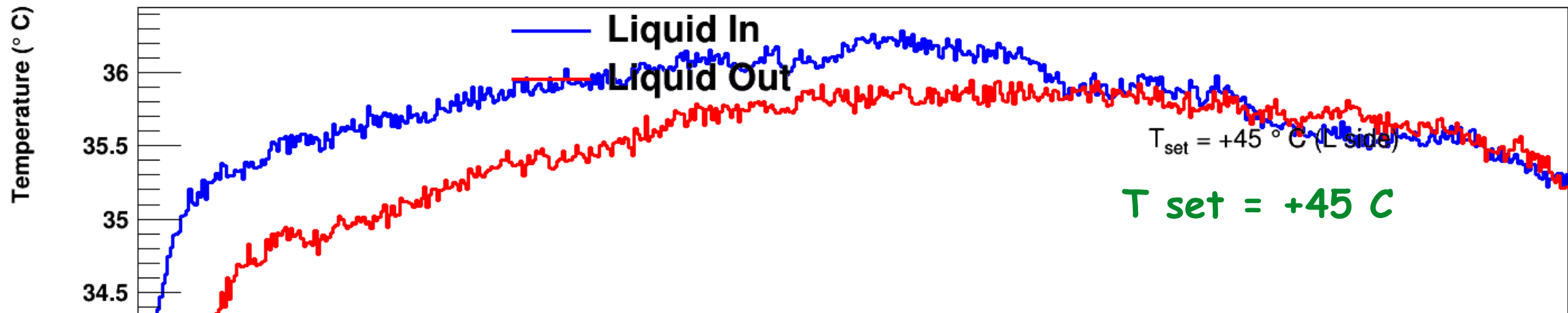
More Temperature profiles



Problem with $T_{\text{set}} = -30 \text{ C}$: see back up



More Temperature profiles



Summary



- ◉ Mistake found for stave facing (Coordinate different in Flir software and ROOT).
- ◉ Fit method needs to be improved to be more stable:
 - ◆ Most of the times, it looks nice, but sometimes it fails.

backup

Problematic Temperature profiles



- ⦿ Not sure why the fit didn't work
- ⦿ Can be removed by chi2

