Subject: Re: FRS Calibration Issue
Posted by SMilne on Fri, 16 Jan 2015 00:45:58 GMT
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Hi Liliana!

Thanks for your response! No worries about the delay, I've actually been very busy with finishing off some other analysis and writing some papers.

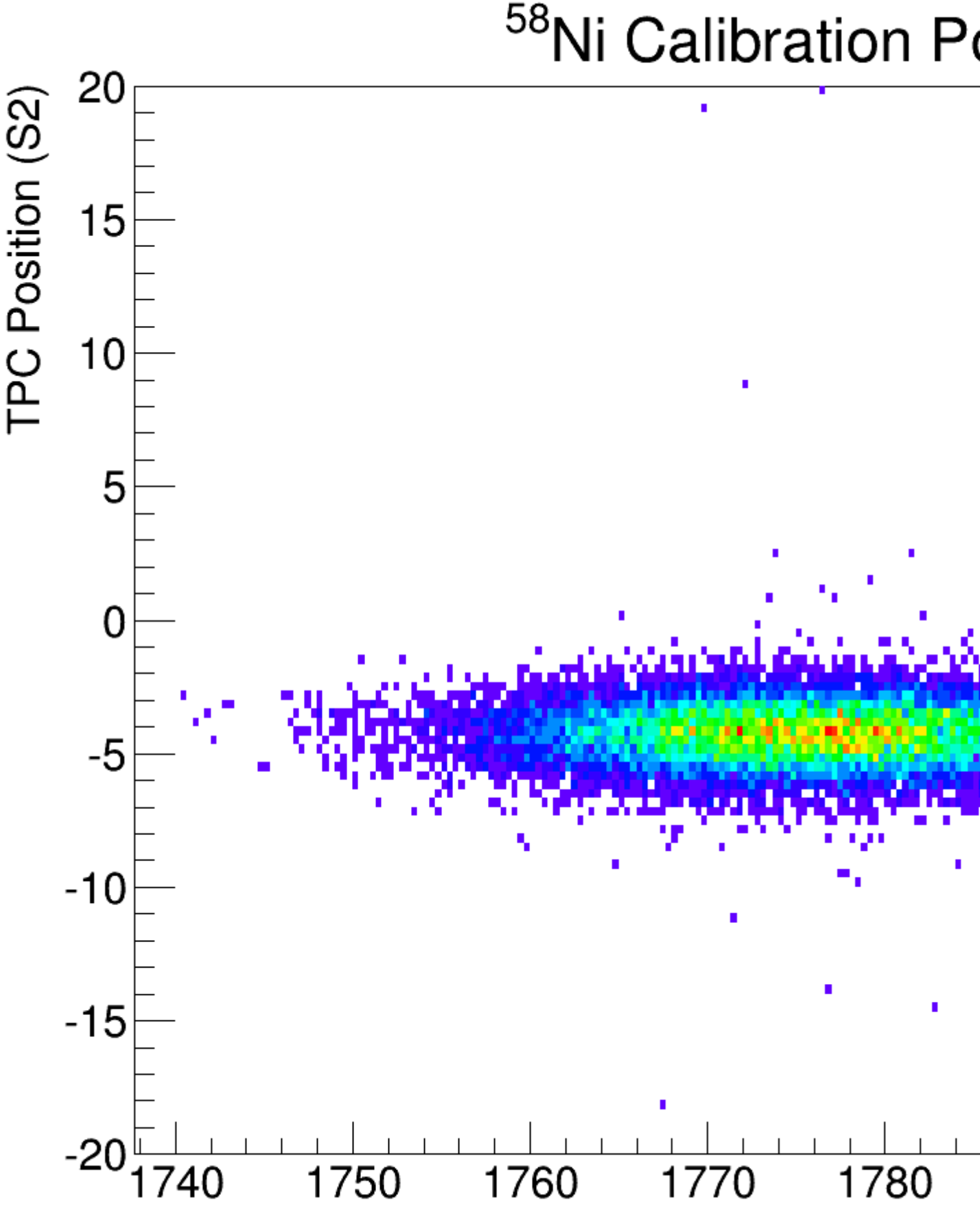
This response will actually take two posts due to an attachments limit, but at least it is (hopefully) good news.

Just to summarise, the issue is this, when using the TPCs for determining the x positions and therefore the A/Q we end up losing ~80% of the data because the TPCs are too slow (at least for the rates we were using). Therefore we want to use the scintillators, which are faster (although with a worse position resolution), to determine the A/Q. So in short, we are currently trying to calibrate the scintillator positions. The issues, as you will see in my second post, are indeed related to some weird FRS ToF issues, just as you suggested.

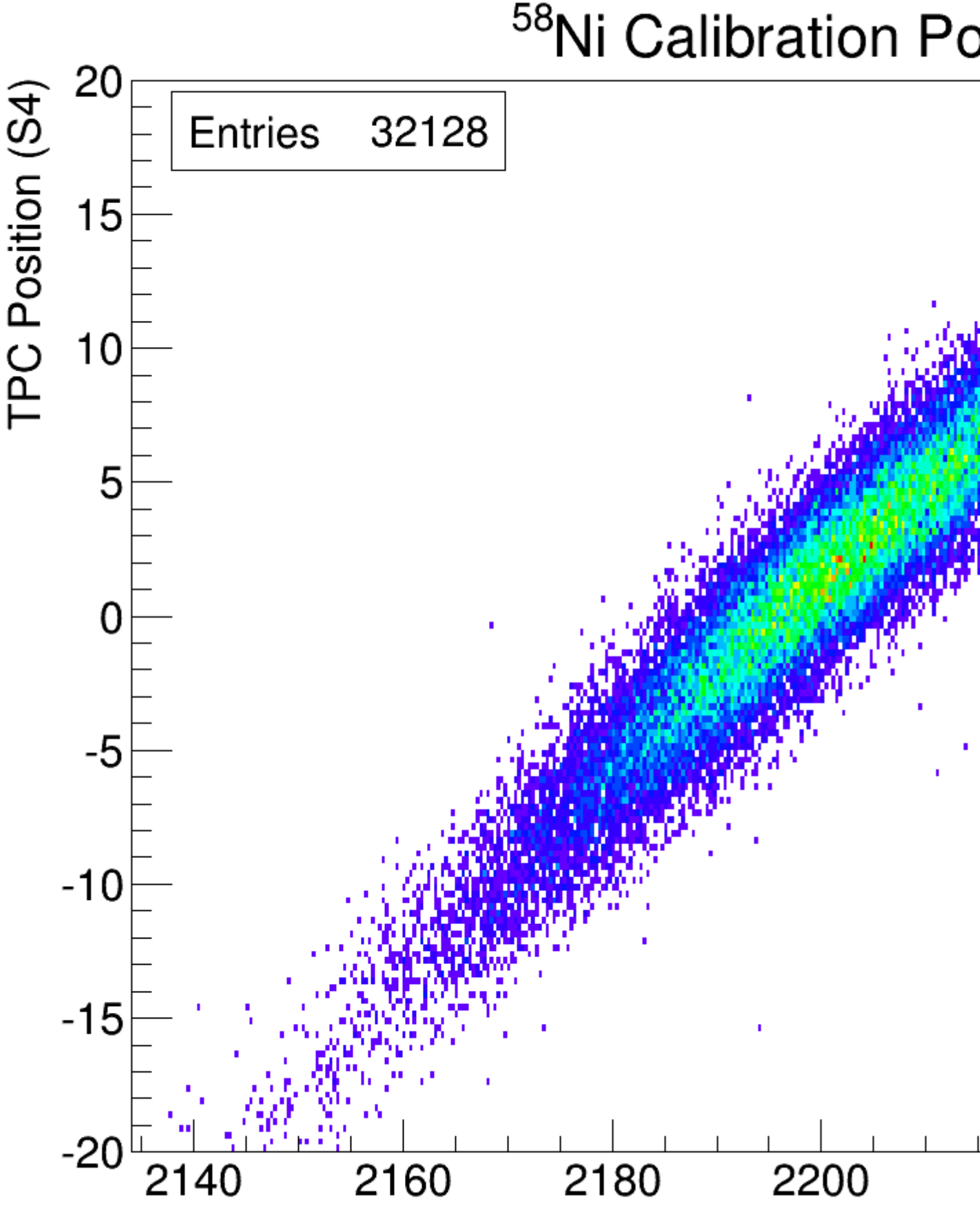
Just for your interest I have still produced the spectra which you asked for in case they still serve some purpose.
- TPC Position vs Sc21 dt left-right [raw] (for both the 1st calibration point and the last few runs of 46V)
- TPC Position vs Sc41 dt left-right [raw] (for both the 1st calibration point and the last few runs of 46V)
- TOF for all 4 calibration runs [calibrated] (on the same graph, including a range that covers all entries)

## File Attachments

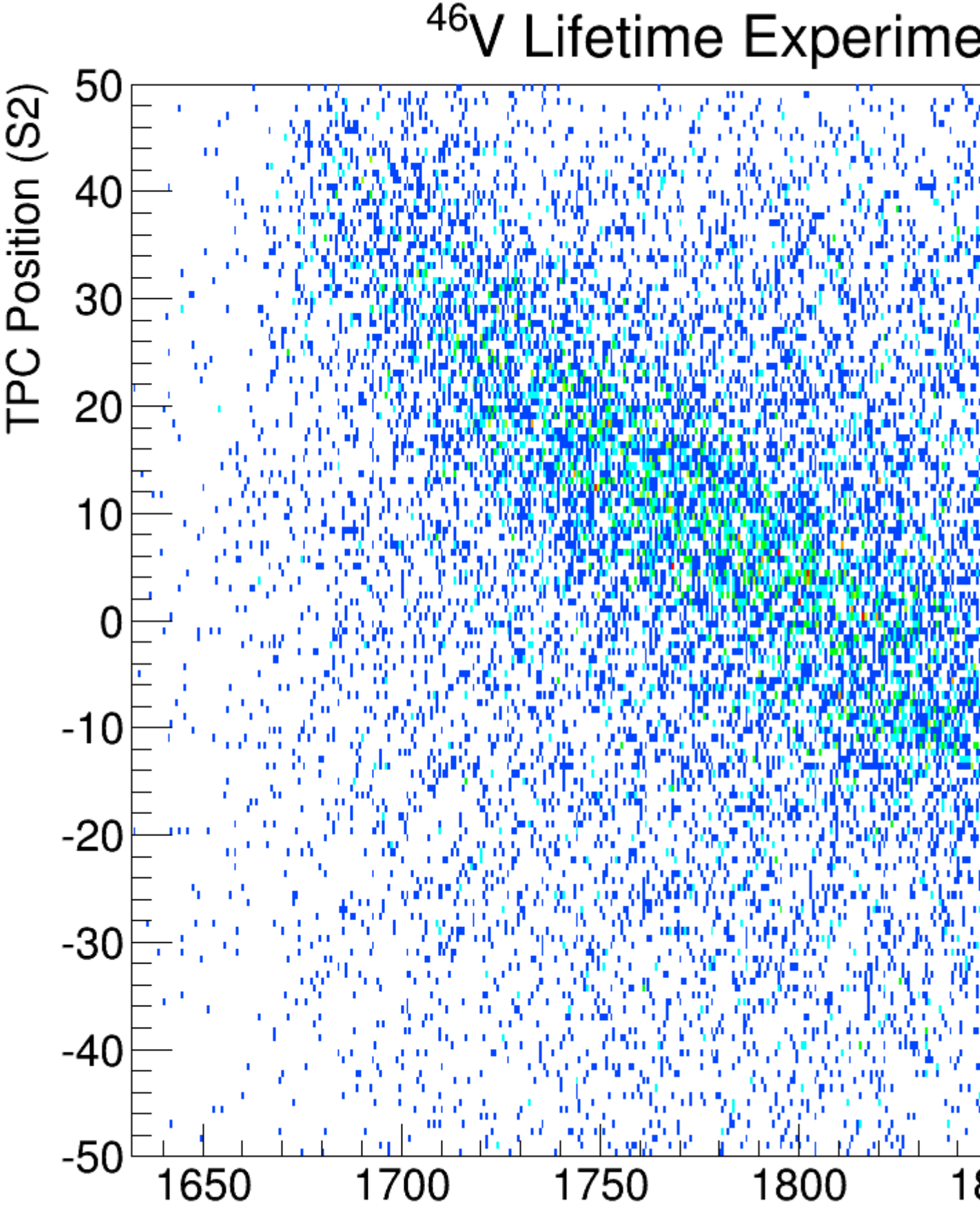
1) 58Ni-Cal1-TPCvSc21-S2.png, downloaded 743 times


$^{58}$Ni Calibration Po
TPC Position (S2)
20
15
10
5
0
-5
-10
-15
-20
1740
1750
1760
1770
1780

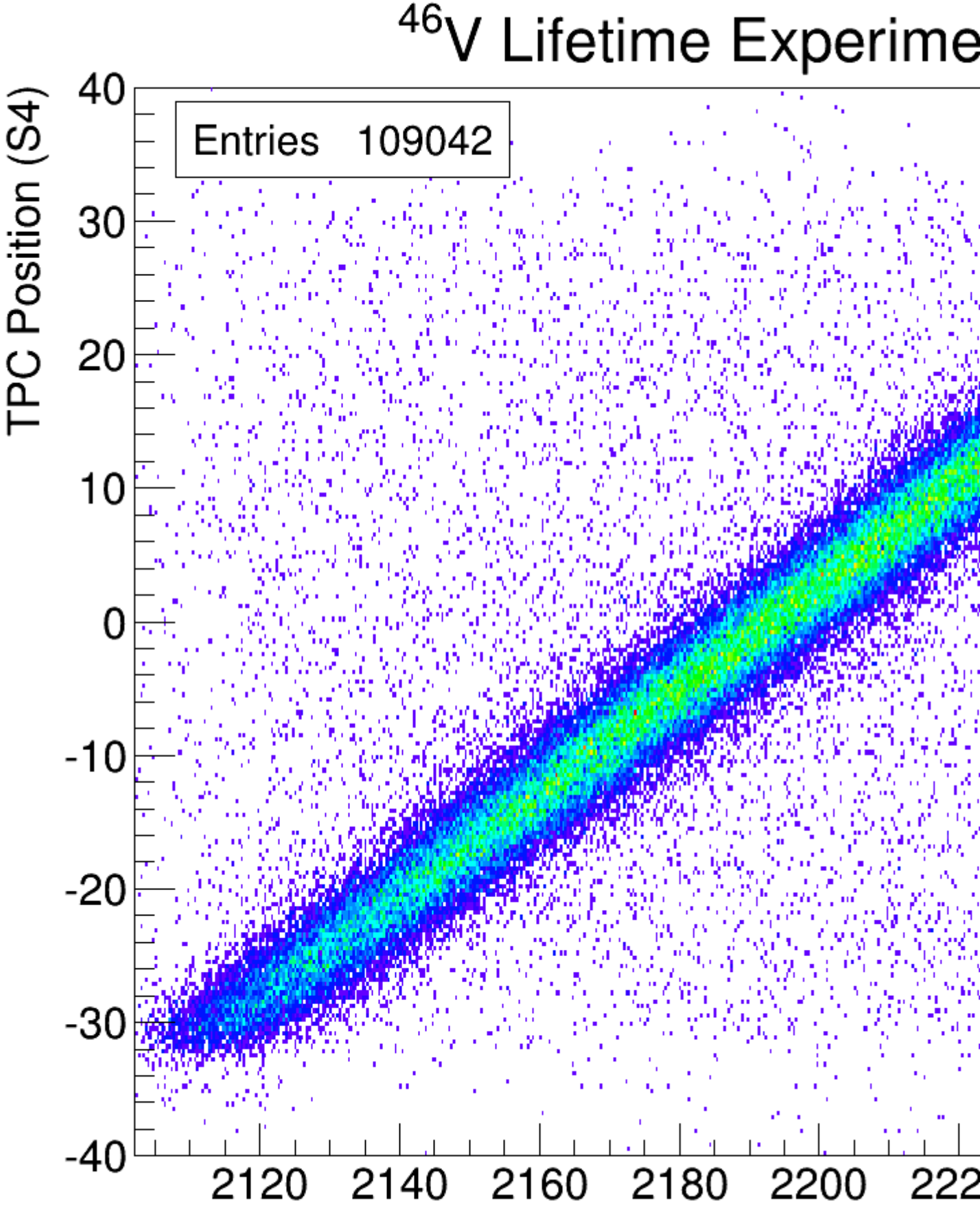
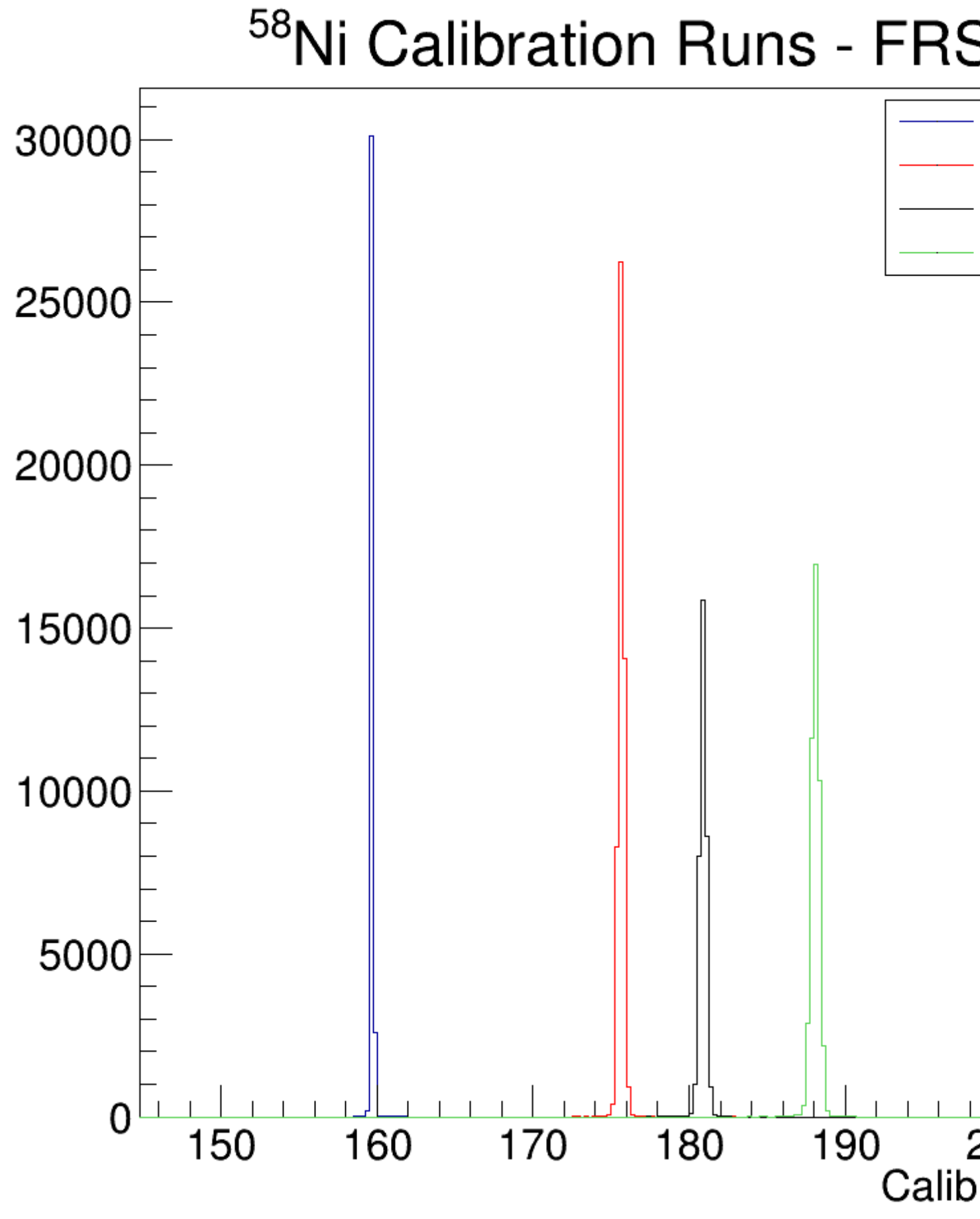
2) 58Ni-Cal1-TPCvSc41-S4.png, downloaded 750 times


$^{58}$Ni Calibration Po
Entries 32128
TPC Position (S4)
20
15
10
5
0
-5
-10
-15
-20
2140
2160
2180
2200

3) 46V-L-TPCvSc21-S2.png, downloaded 718 times


$^{46}$V Lifetime Experime
TPC Position (S2)
50
40
30
20
10
0
-10
-20
-30
-40
-50
1650
1700
1750
1800

4) 46V-L-TPCvSc41-S4.png, downloaded 714 times


$^{46}$V Lifetime Experime
Entries 109042
TPC Position (S4)
40
30
20
10
0
-10
-20
-30
-40
2120
2140
2160
2180
2200
222

5) 58Ni-ToF-All.png, downloaded 751 times