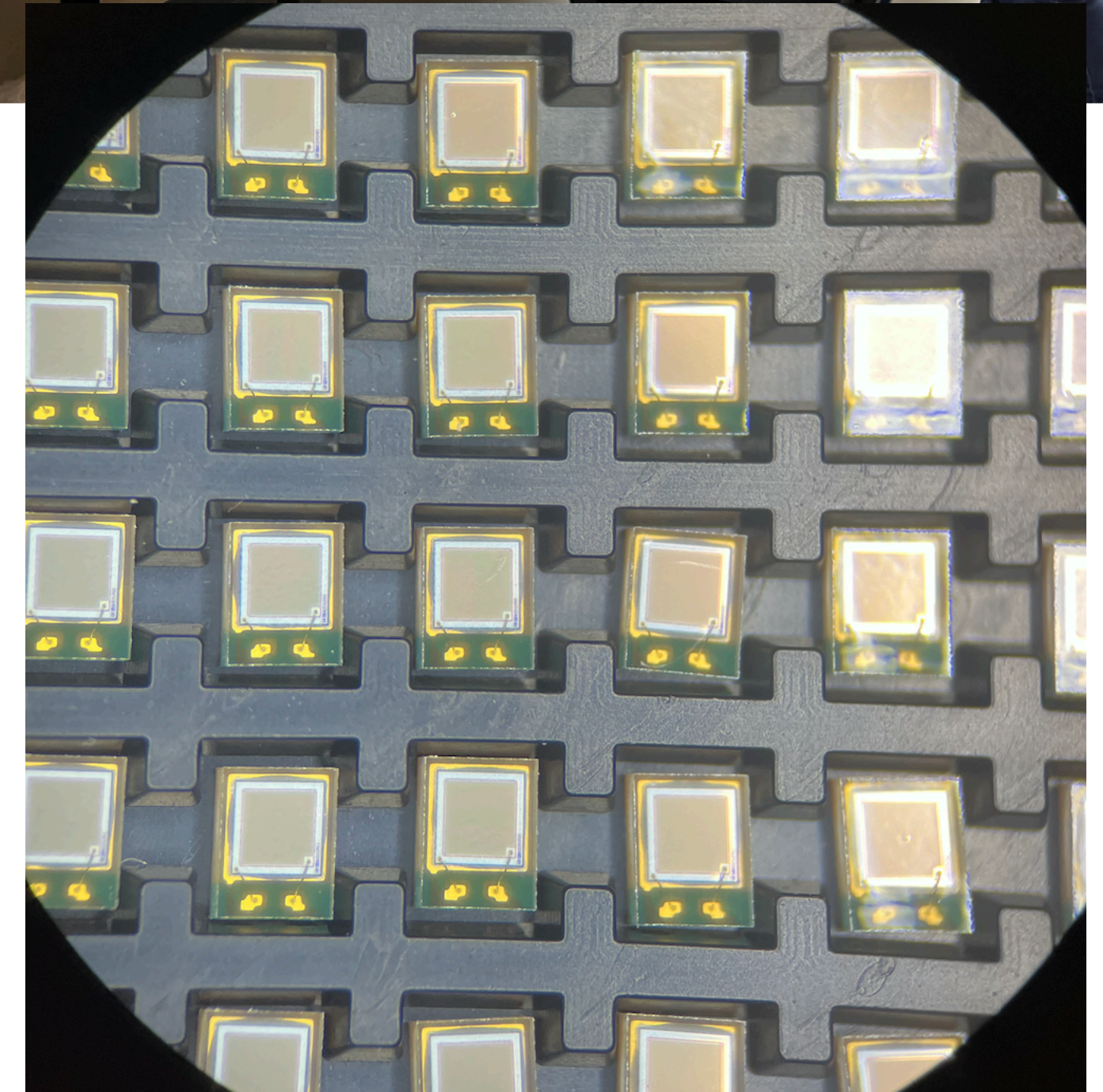


LFHCal SiPM QC

Yale Update

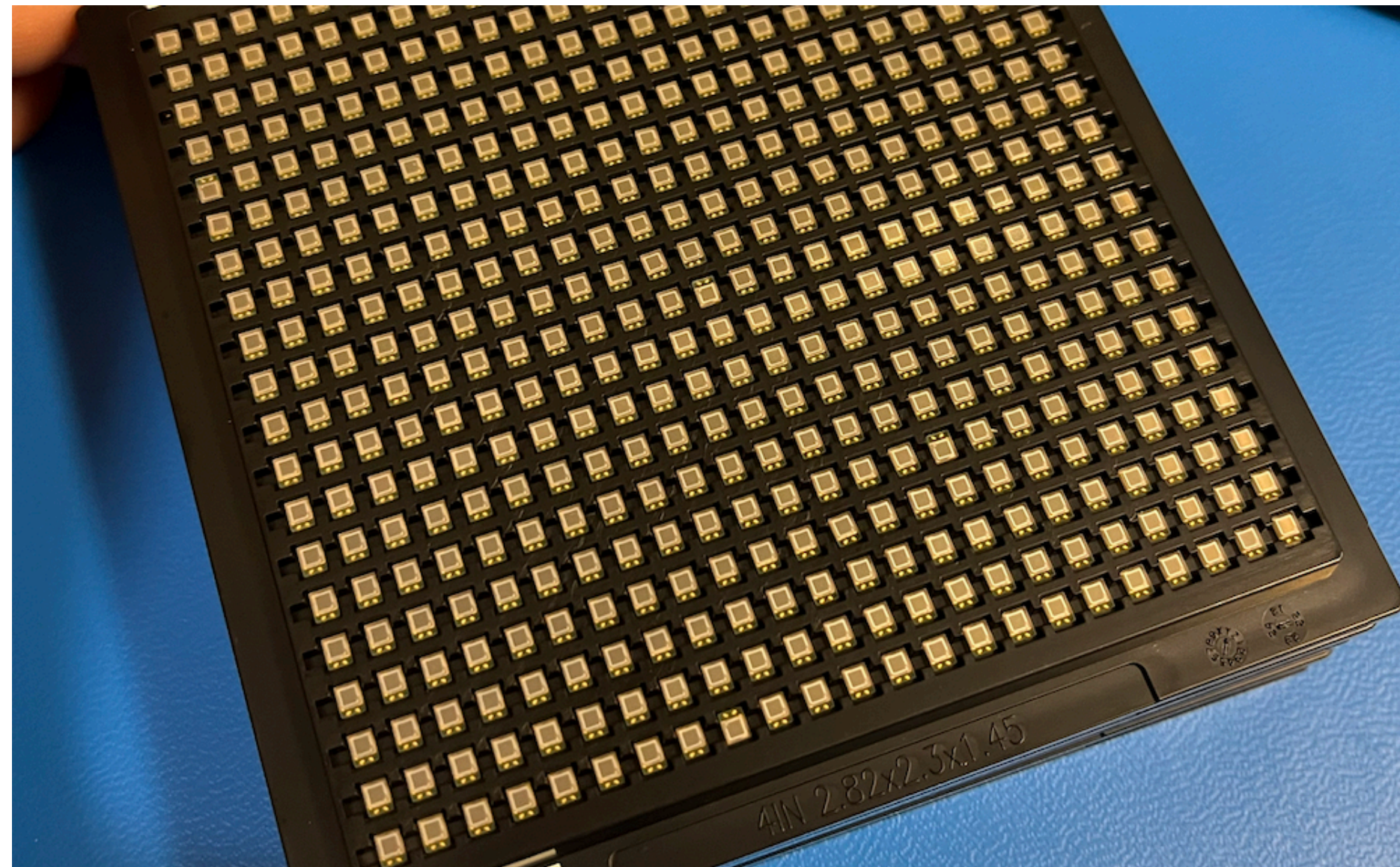
PI	Helen Caines, Laura Havener
Research Scientist	Prakhar Garg
Postdoc	Isaac Mooney
Grad Students	Emily Pottebaum, Ryan Hamilton
Undergrads	Elisa Kim, Langan Zhu



Comparison SiPMs Received!

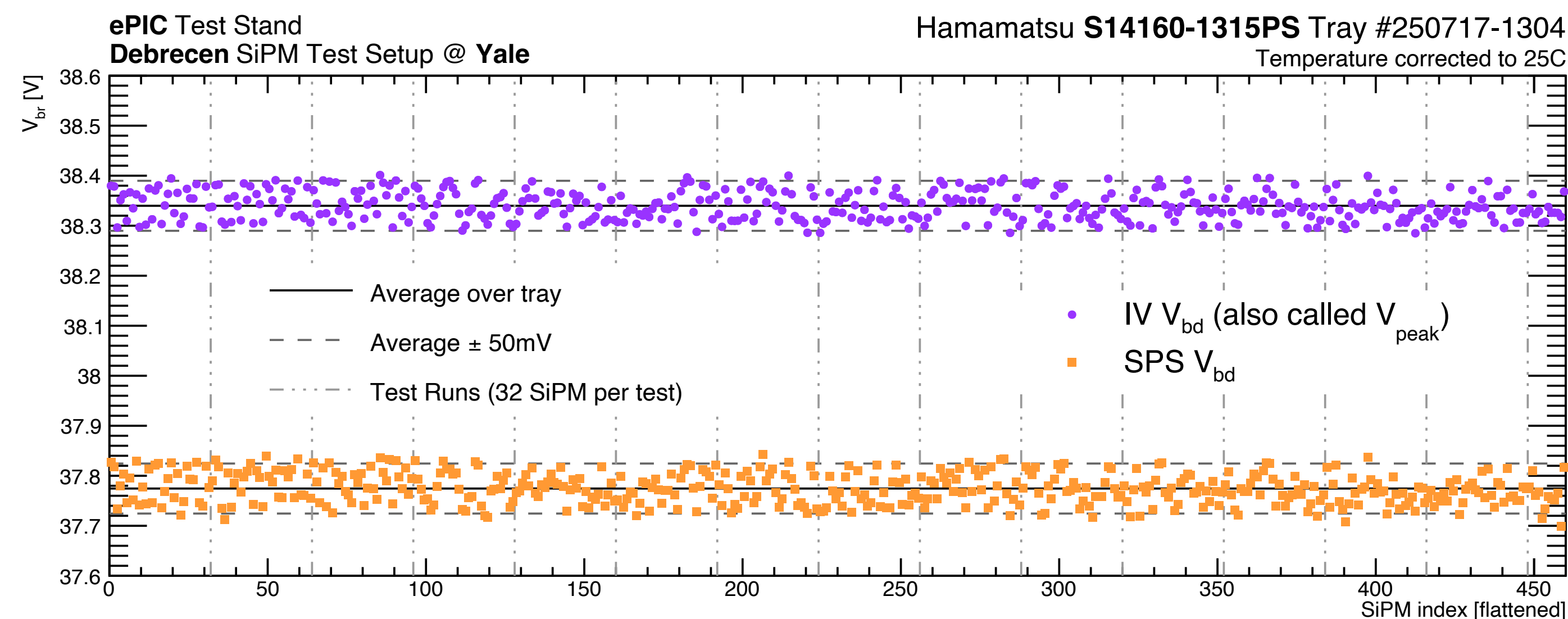
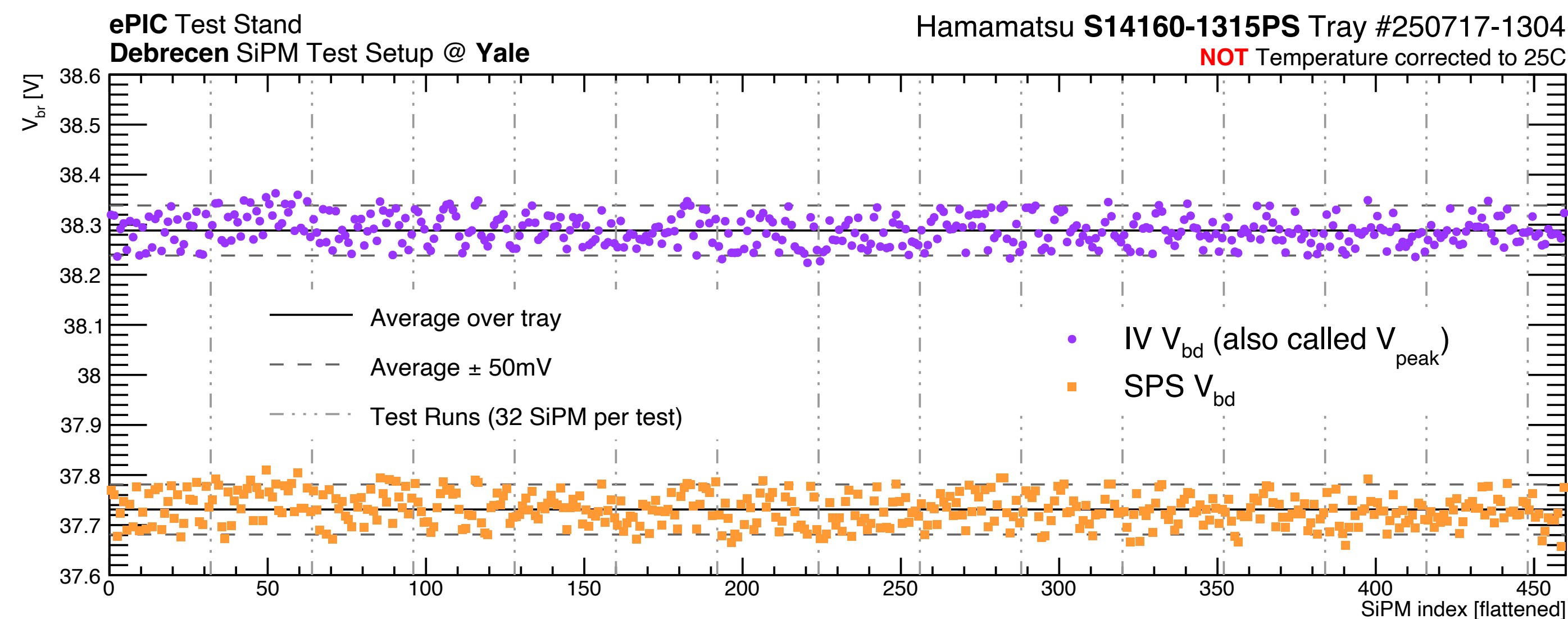
No apparent damage from shipping,
or SiPMs dislodged/disordered

Maintaining order is key for
correlating measurements with ORNL!



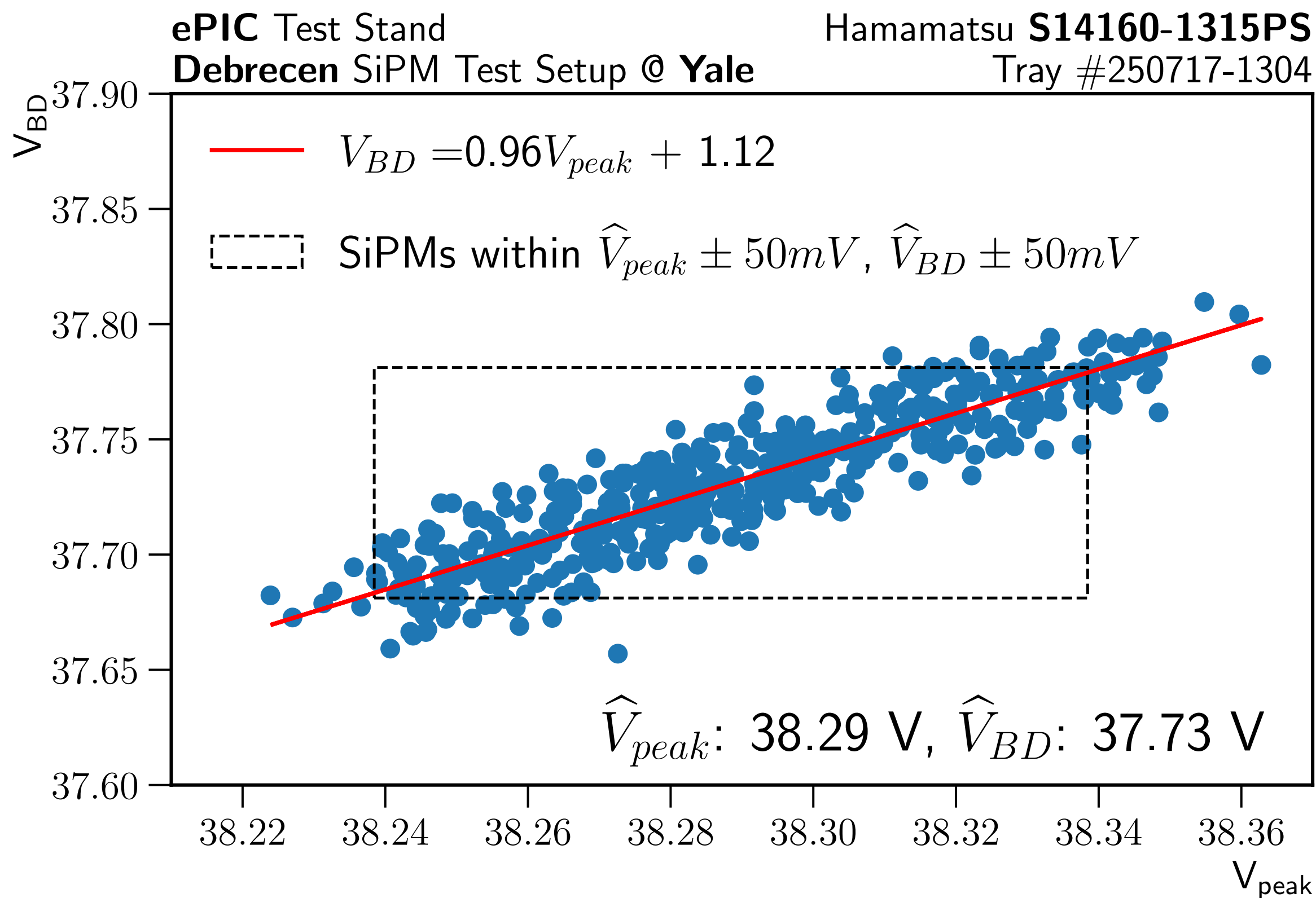
One Tray Measured: 250717-1304

Large difference in outliers from temperature correction!

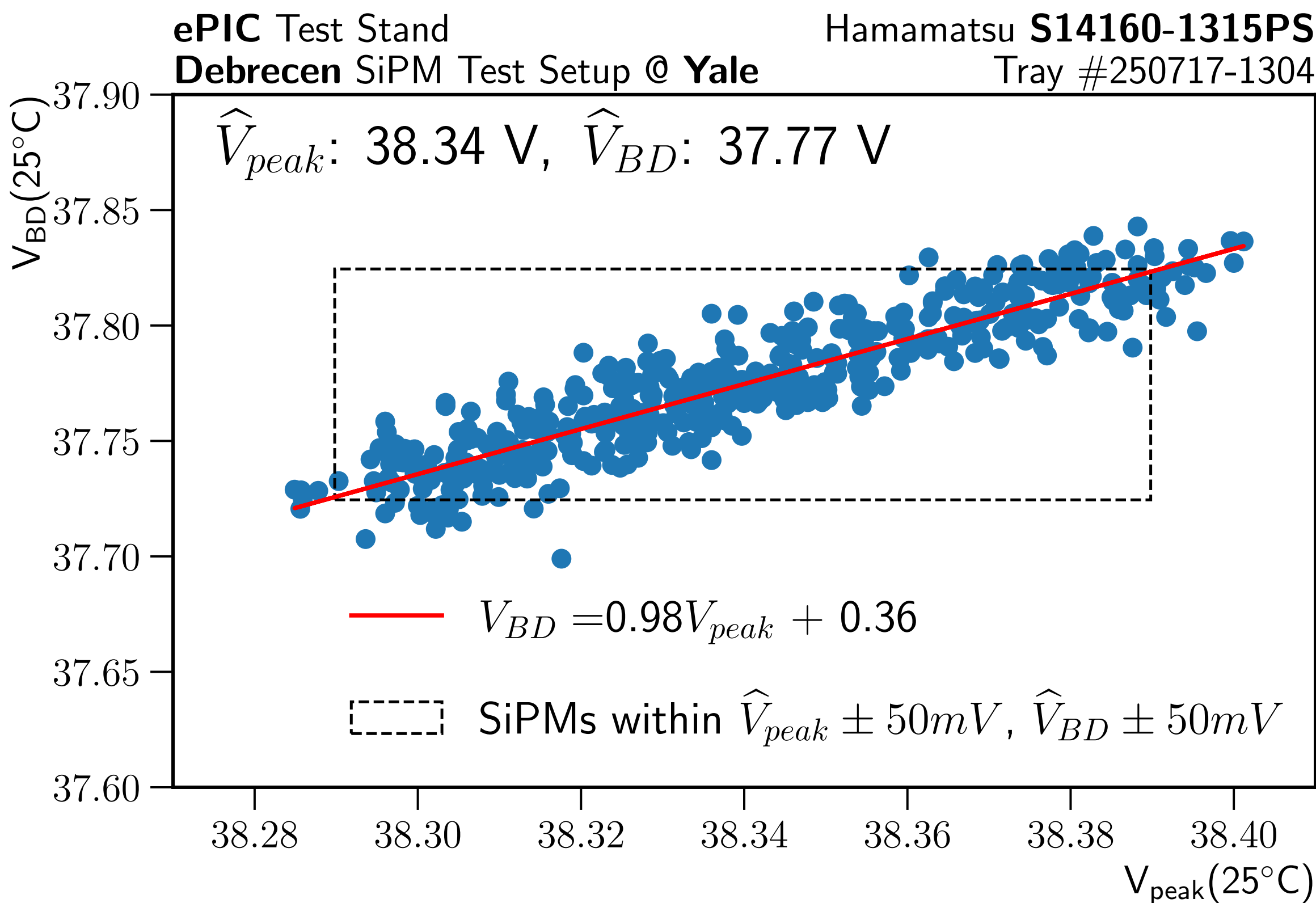


One Tray Measured: 250717-1304

Large difference in outliers from temperature correction!
(I would argue the difference is pretty small -Emily)



Using the 100mV window centered around the mean,
the "outlier" SiPMs fall outside that window
 V_{peak} outliers (IV): 29 (6.3%)
 V_{BD} outliers (SPS): 48 (10.4%)



Using the 100mV window centered around the mean,
the "outlier" SiPMs fall outside that window
 V_{peak} outliers (IV): 22 (4.8%)
 V_{BD} outliers (SPS): 44 (9.6%)

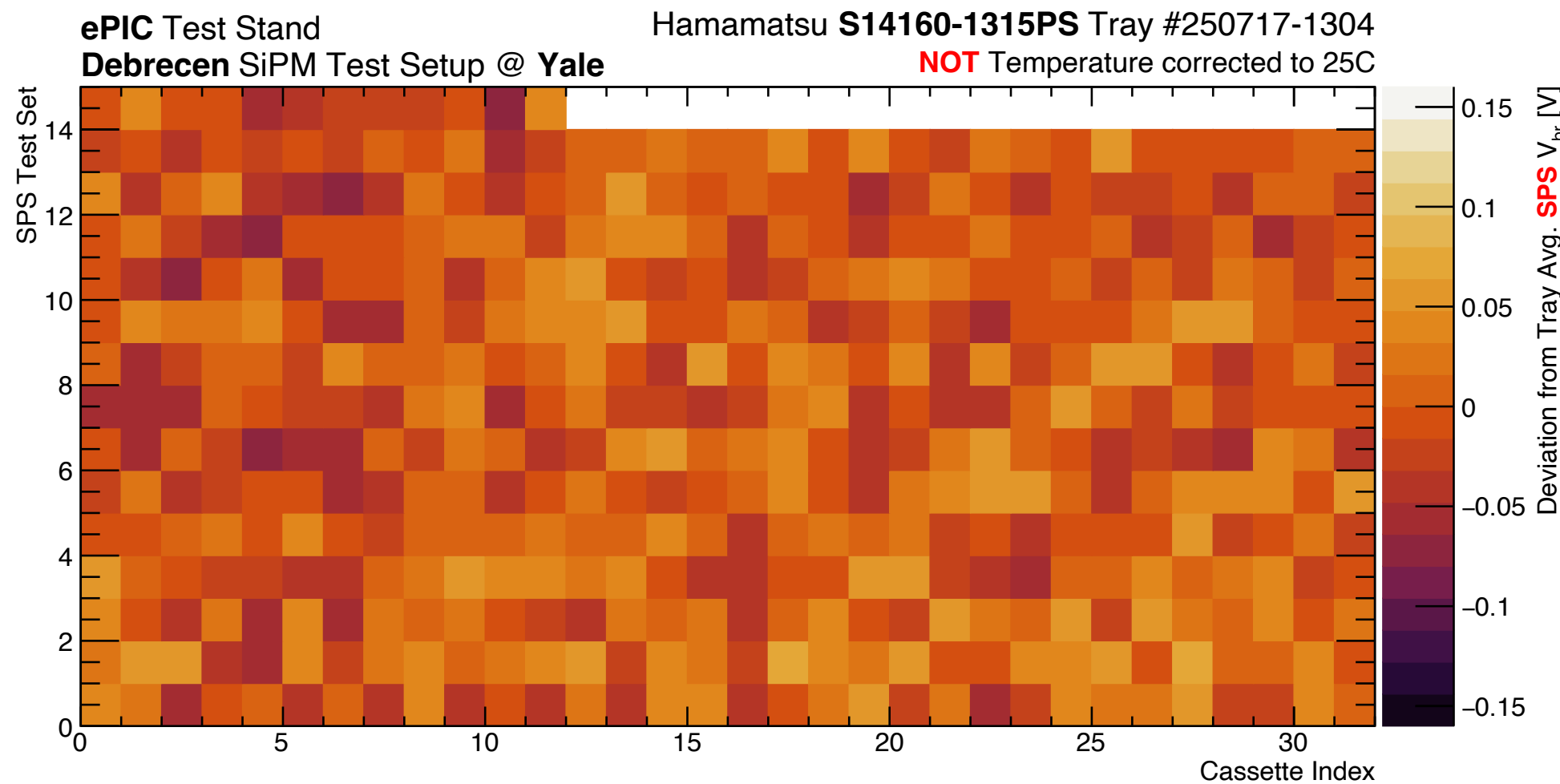
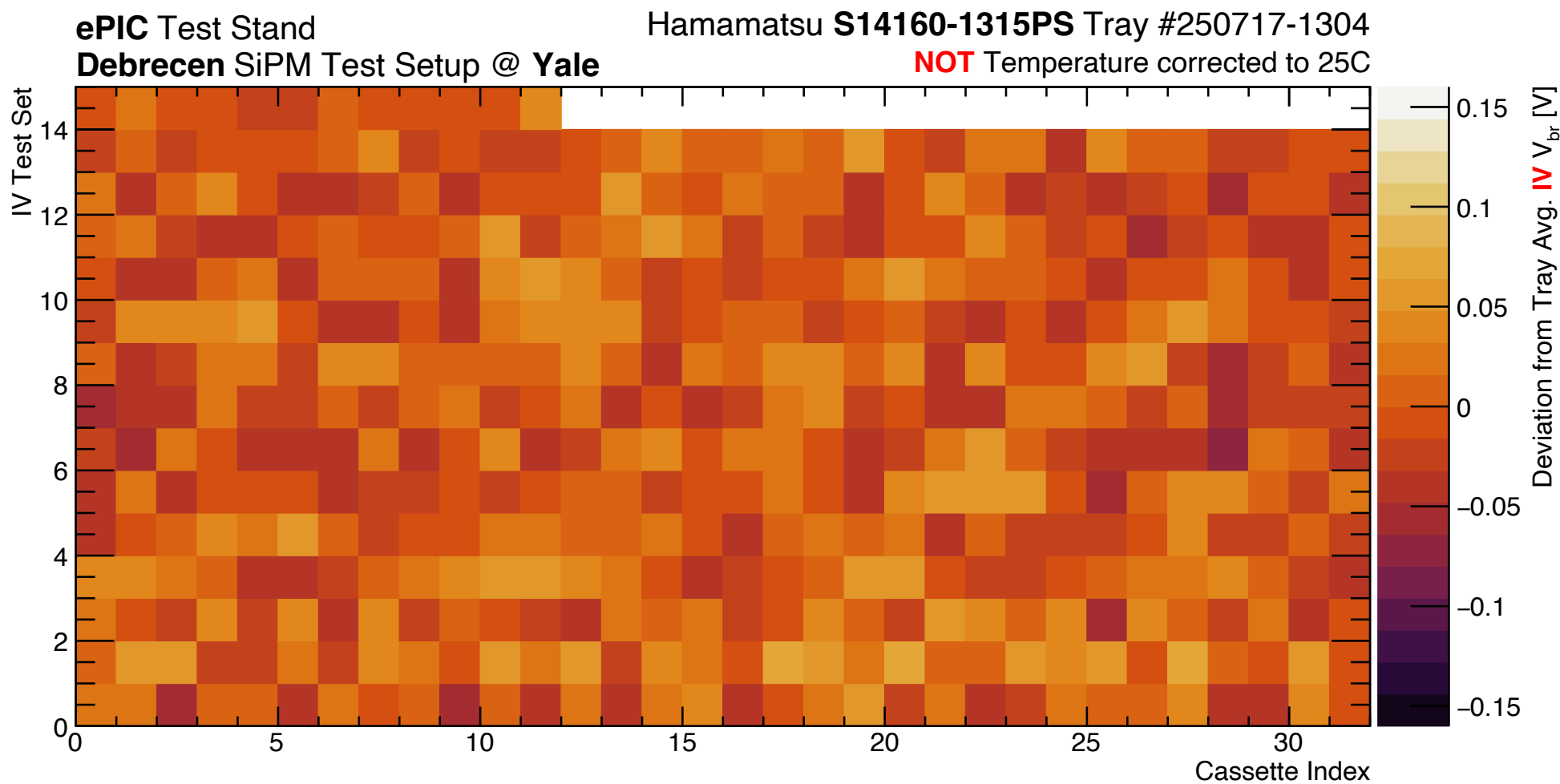
One Tray Measured: 250717-1304

Large difference in outliers from temperature correction!

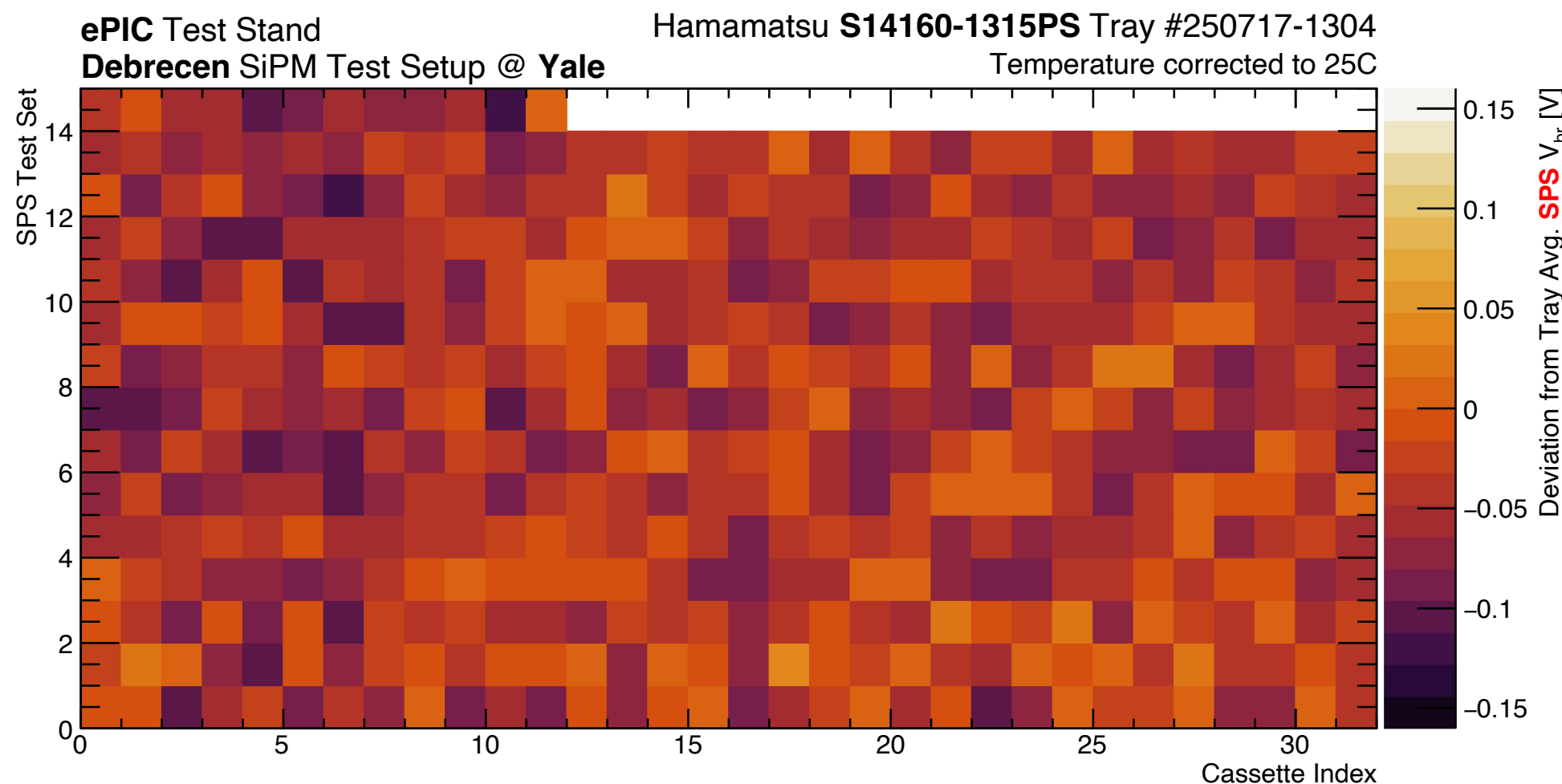
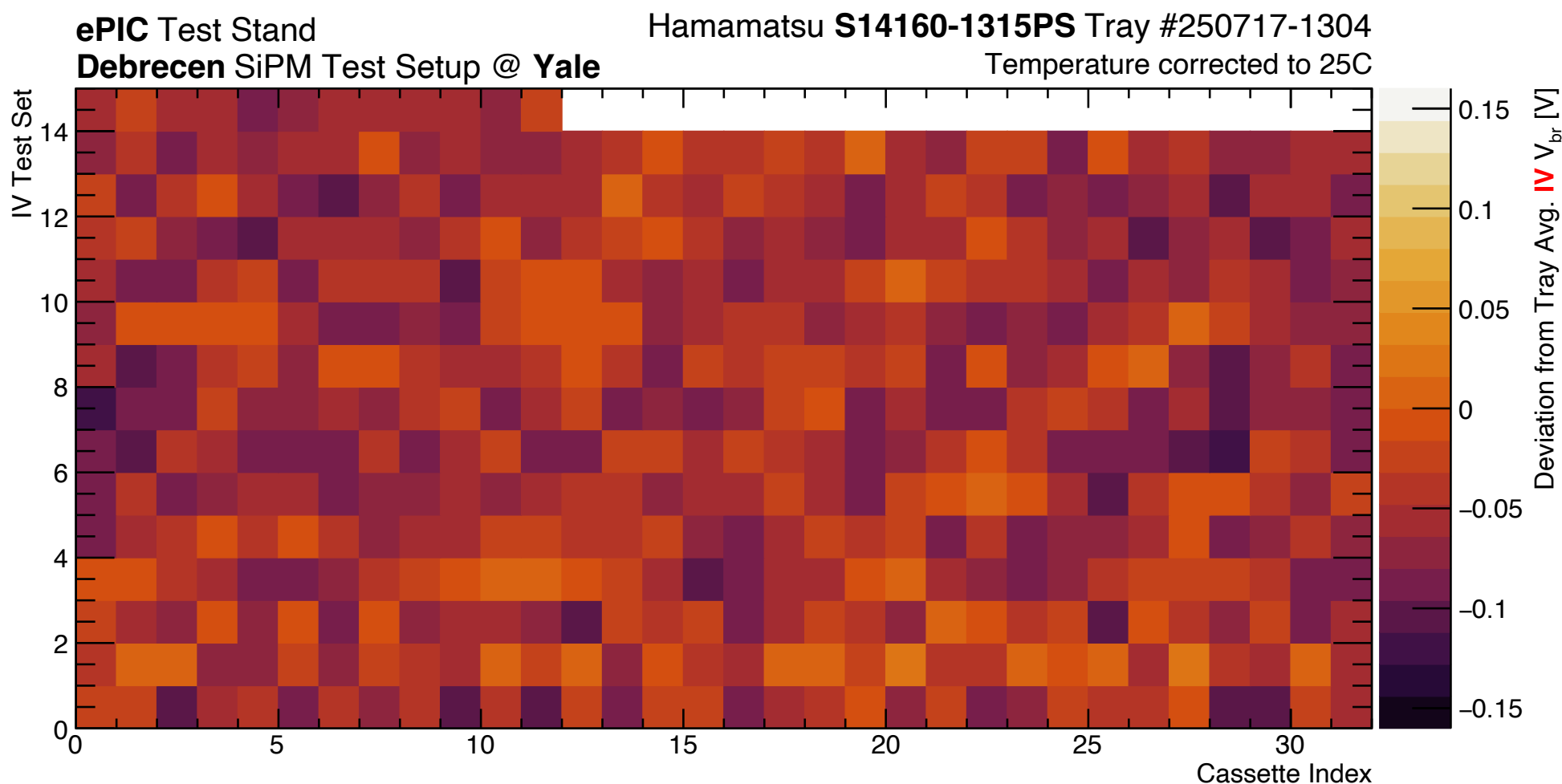
IV

SPS

NOT Temp.
Corrected



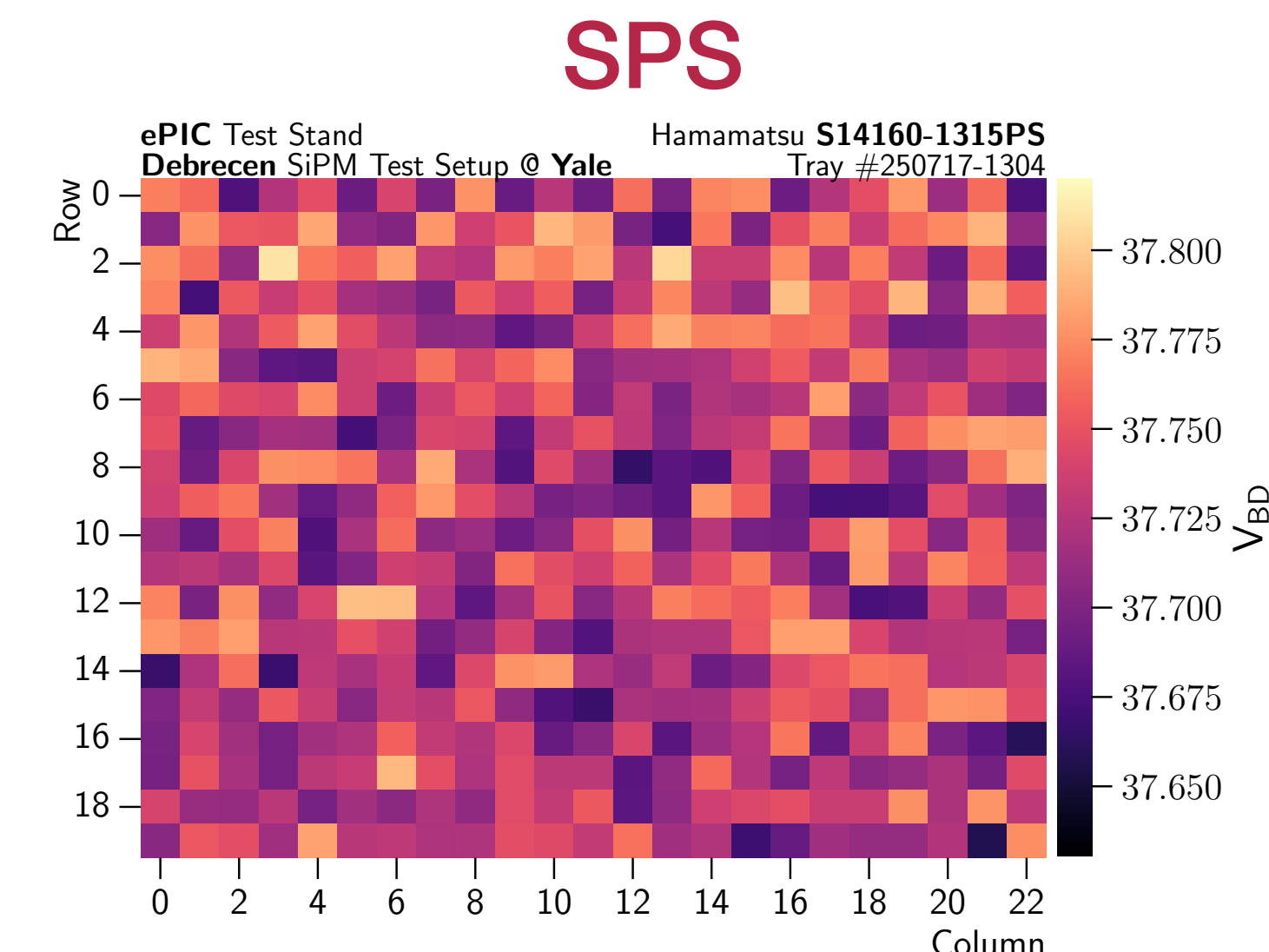
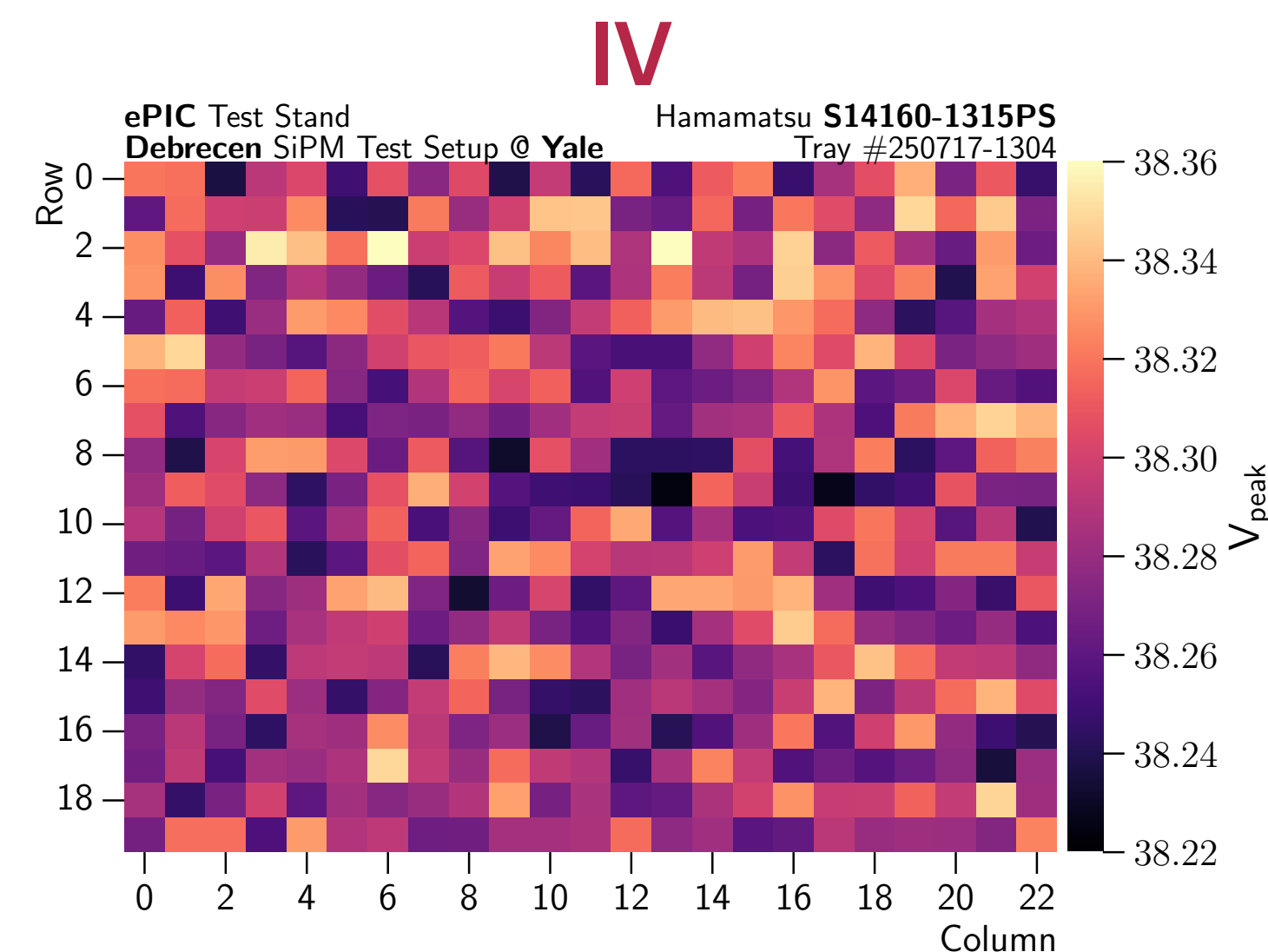
Temp.
Corrected



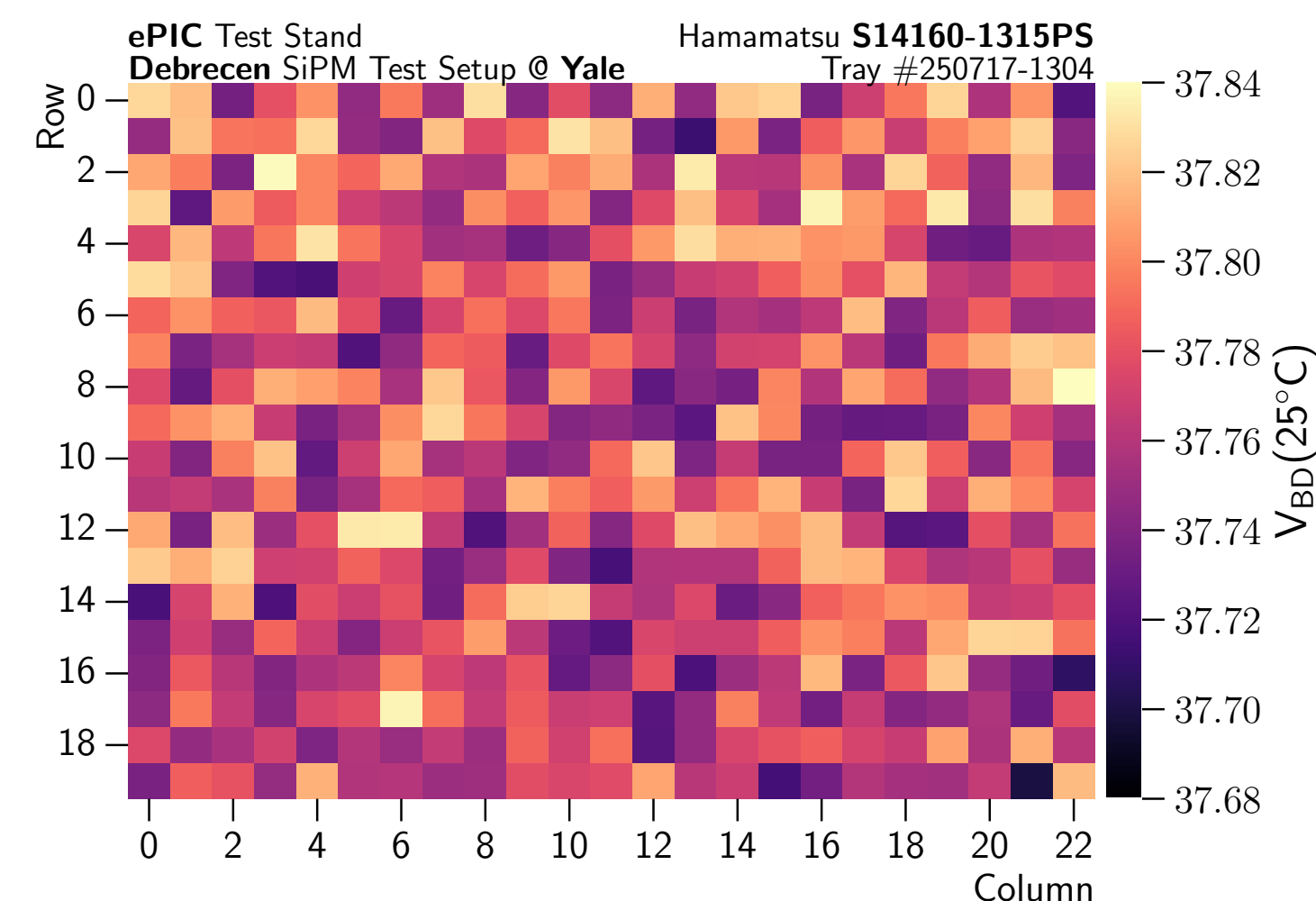
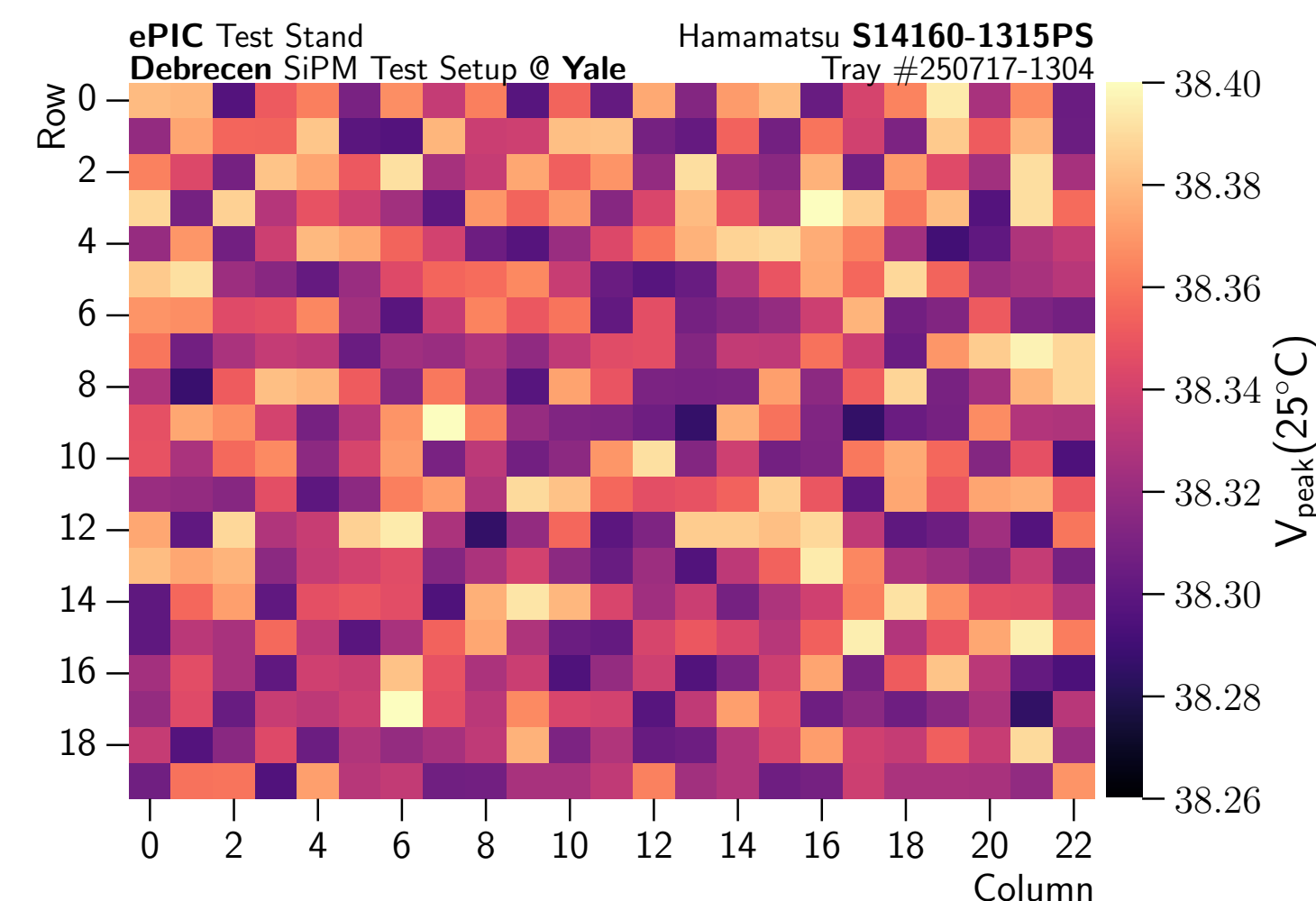
One Tray Measured: 250717-1304

Large difference in outliers from temperature correction!

NOT Temp.
Corrected

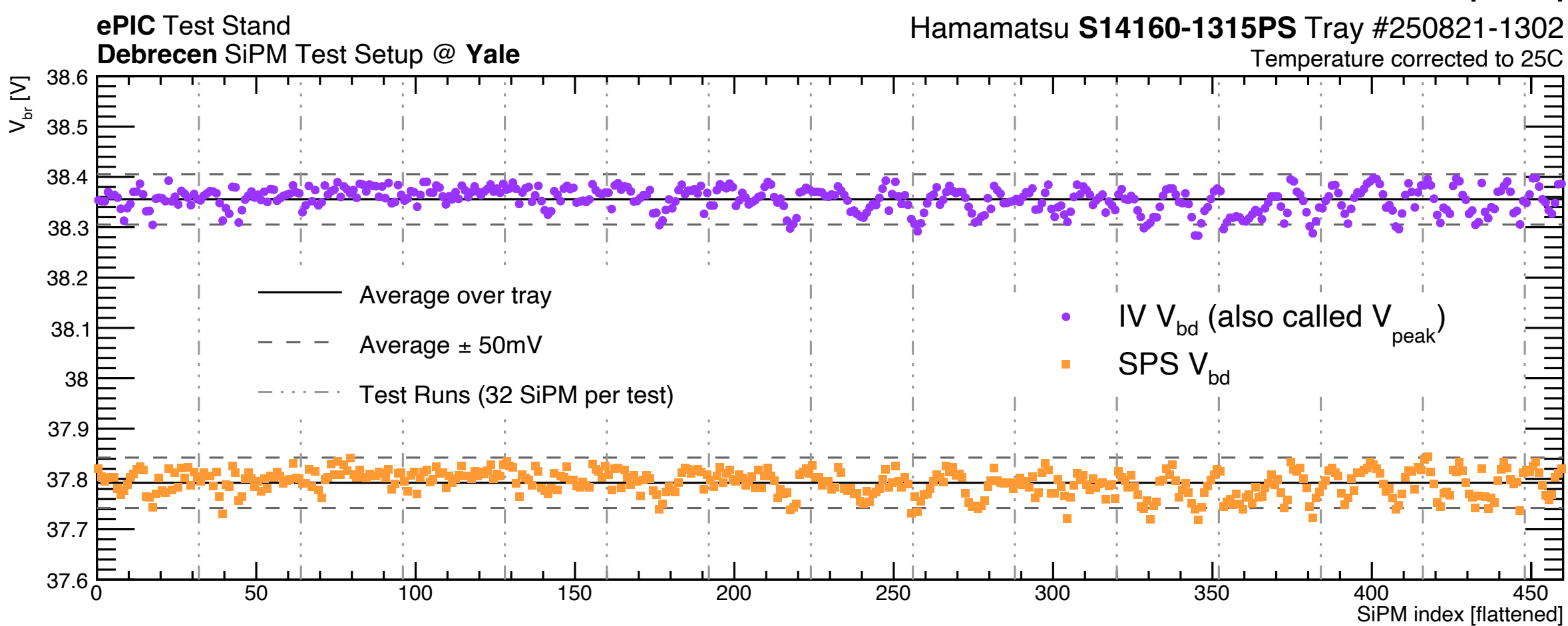
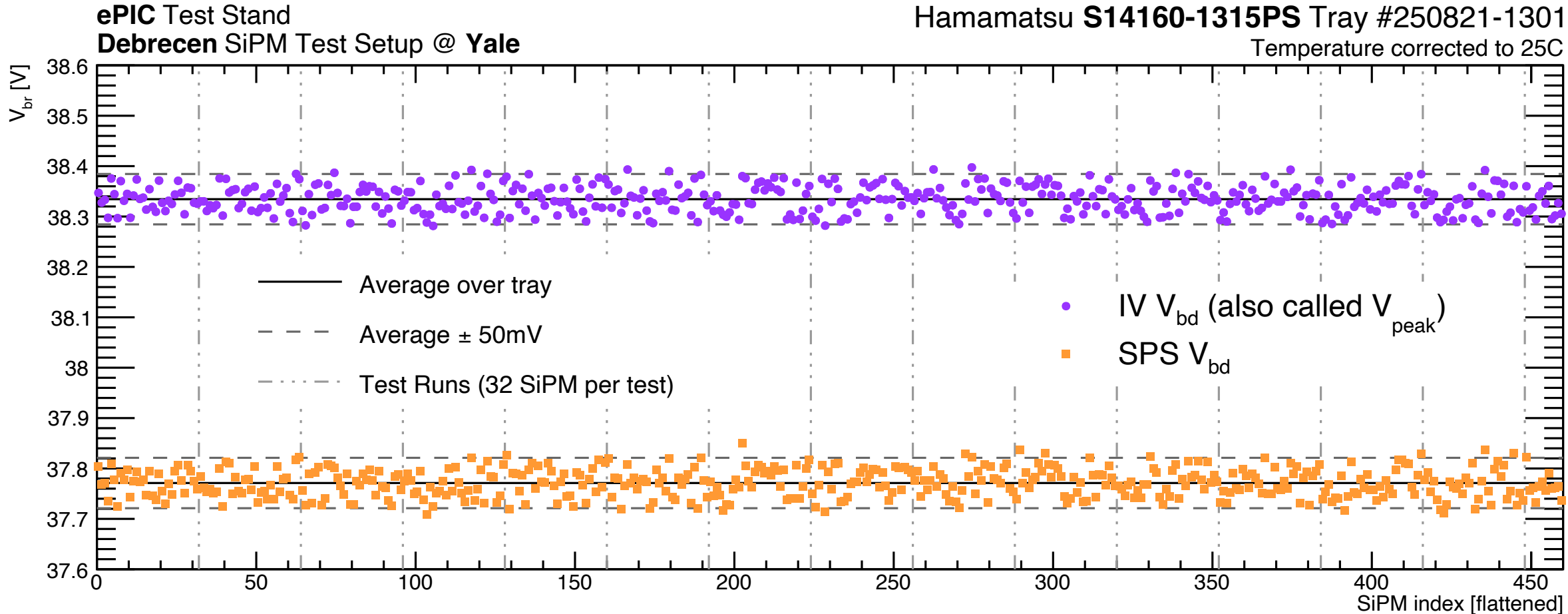
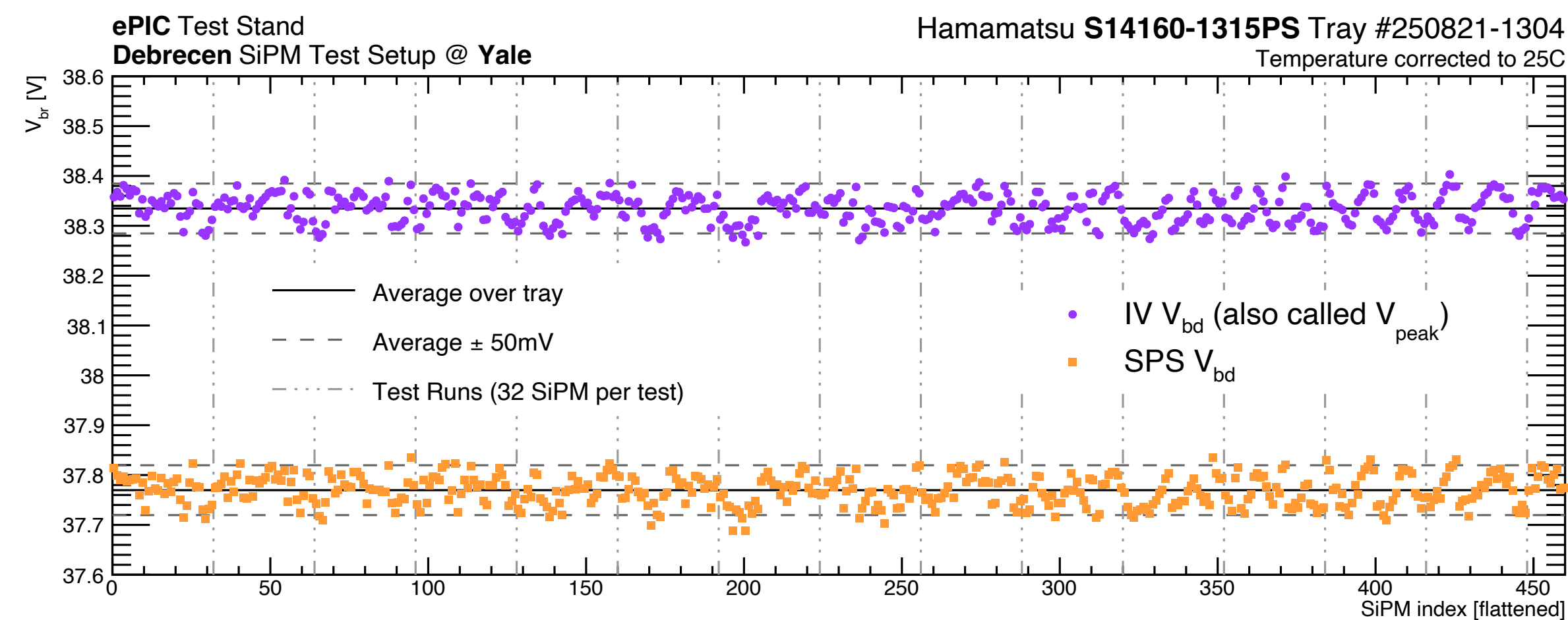


Temp.
Corrected

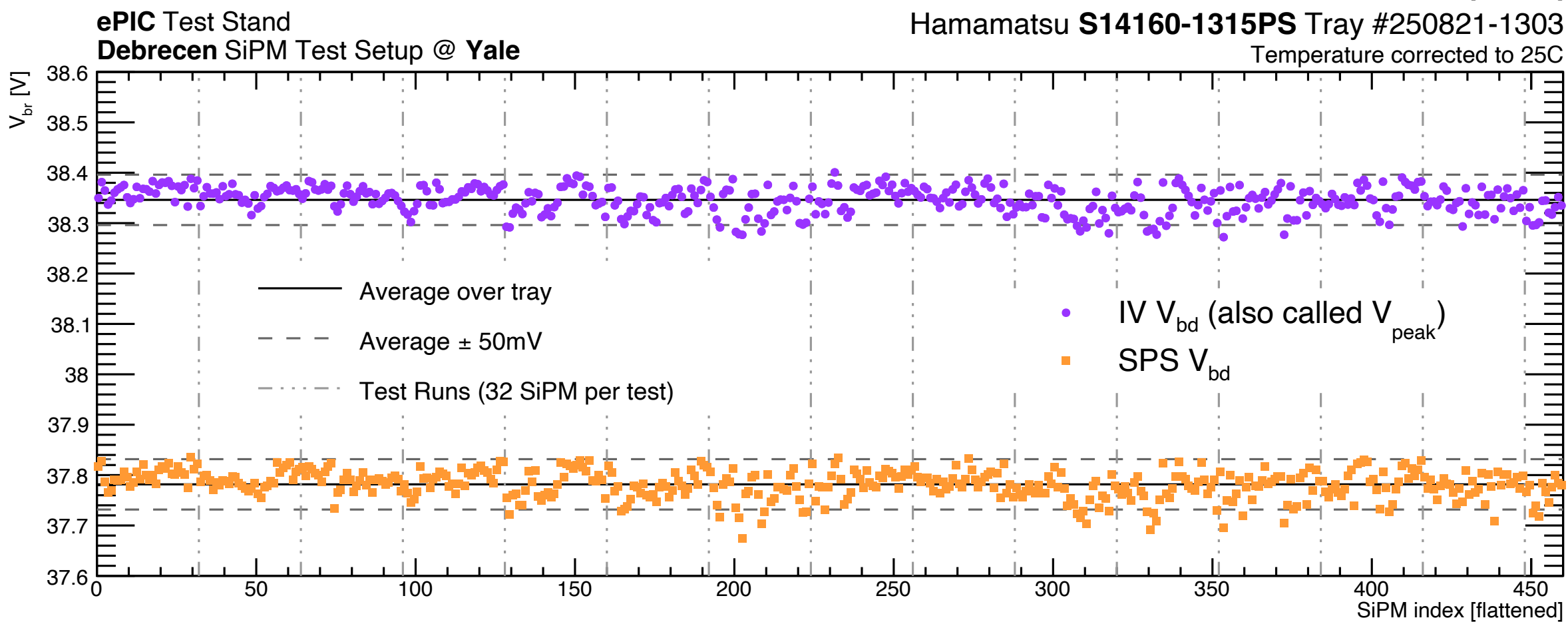
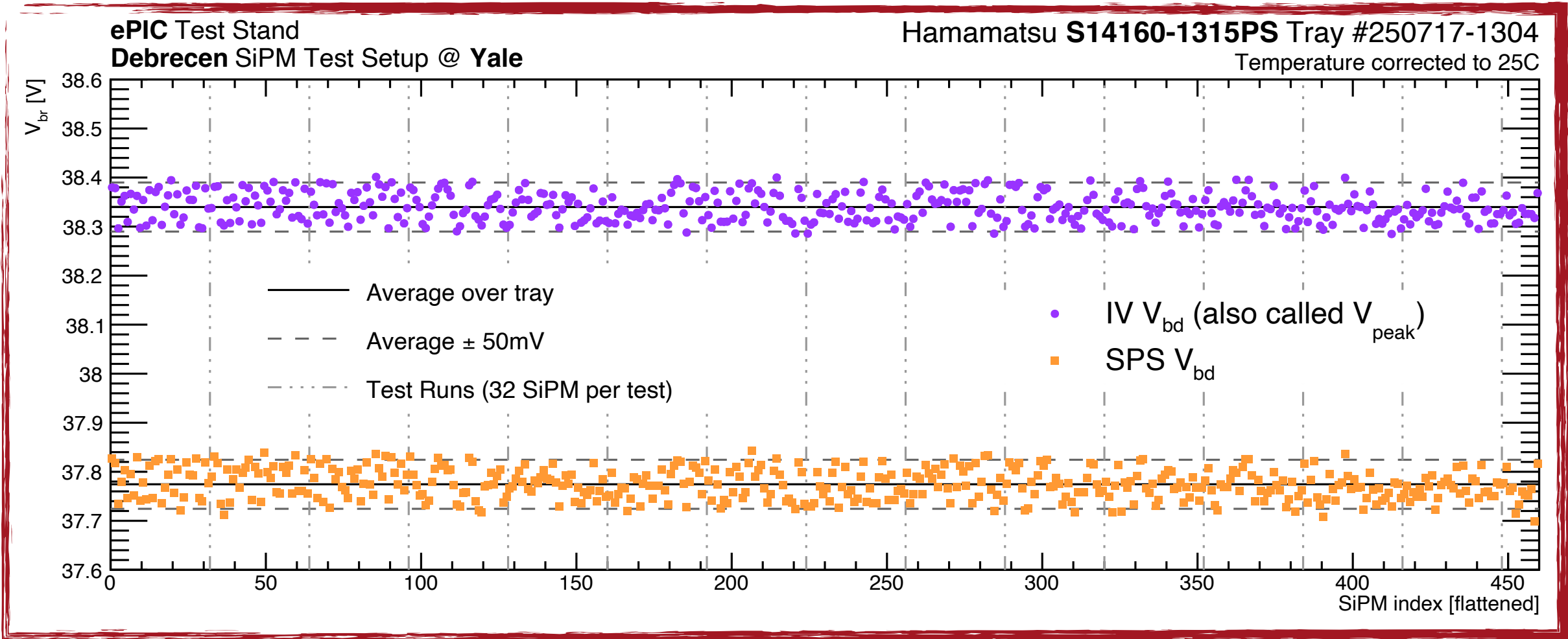


Tray Comparison

SiPMs seem generally comparable in behavior



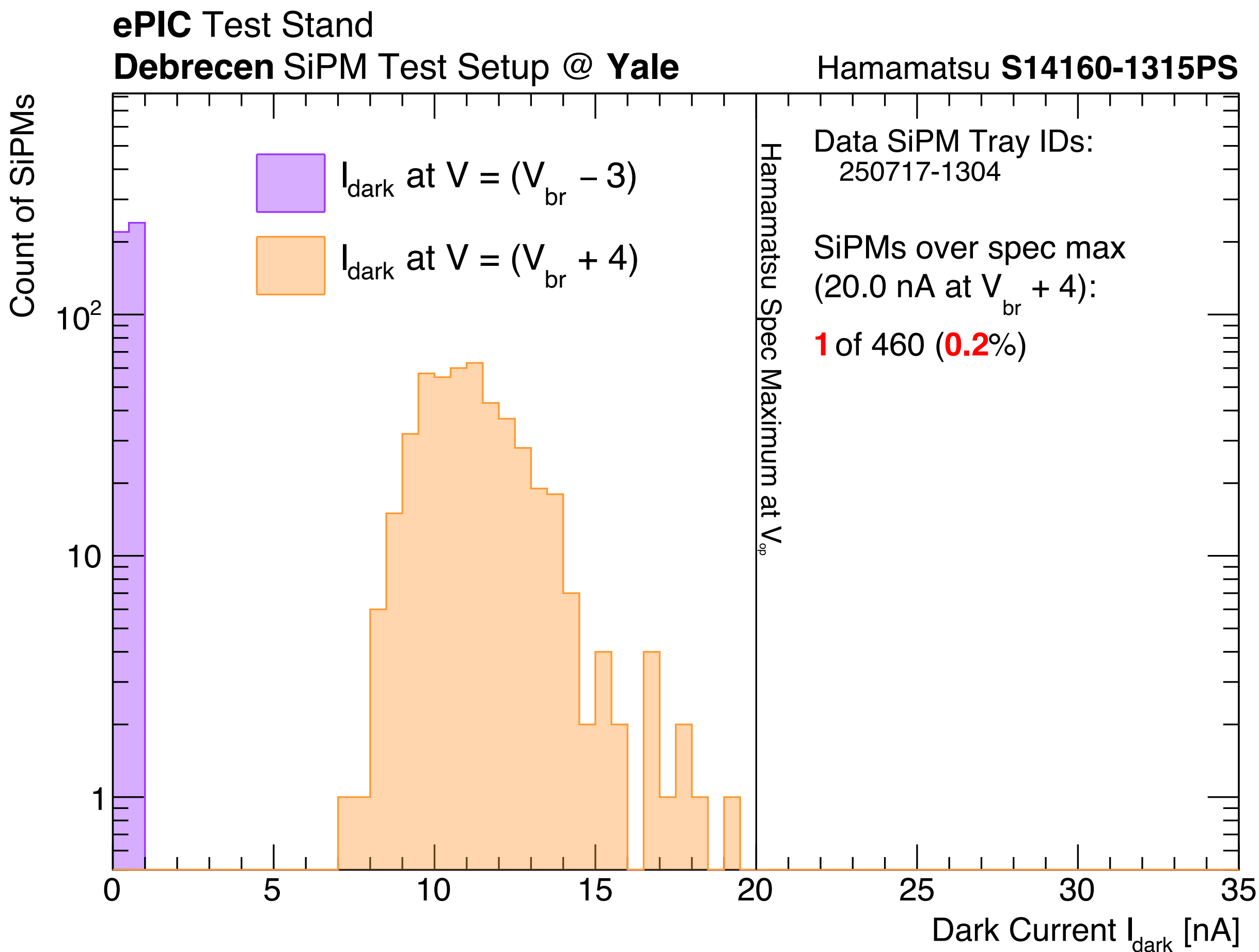
New Tray 250717-1304



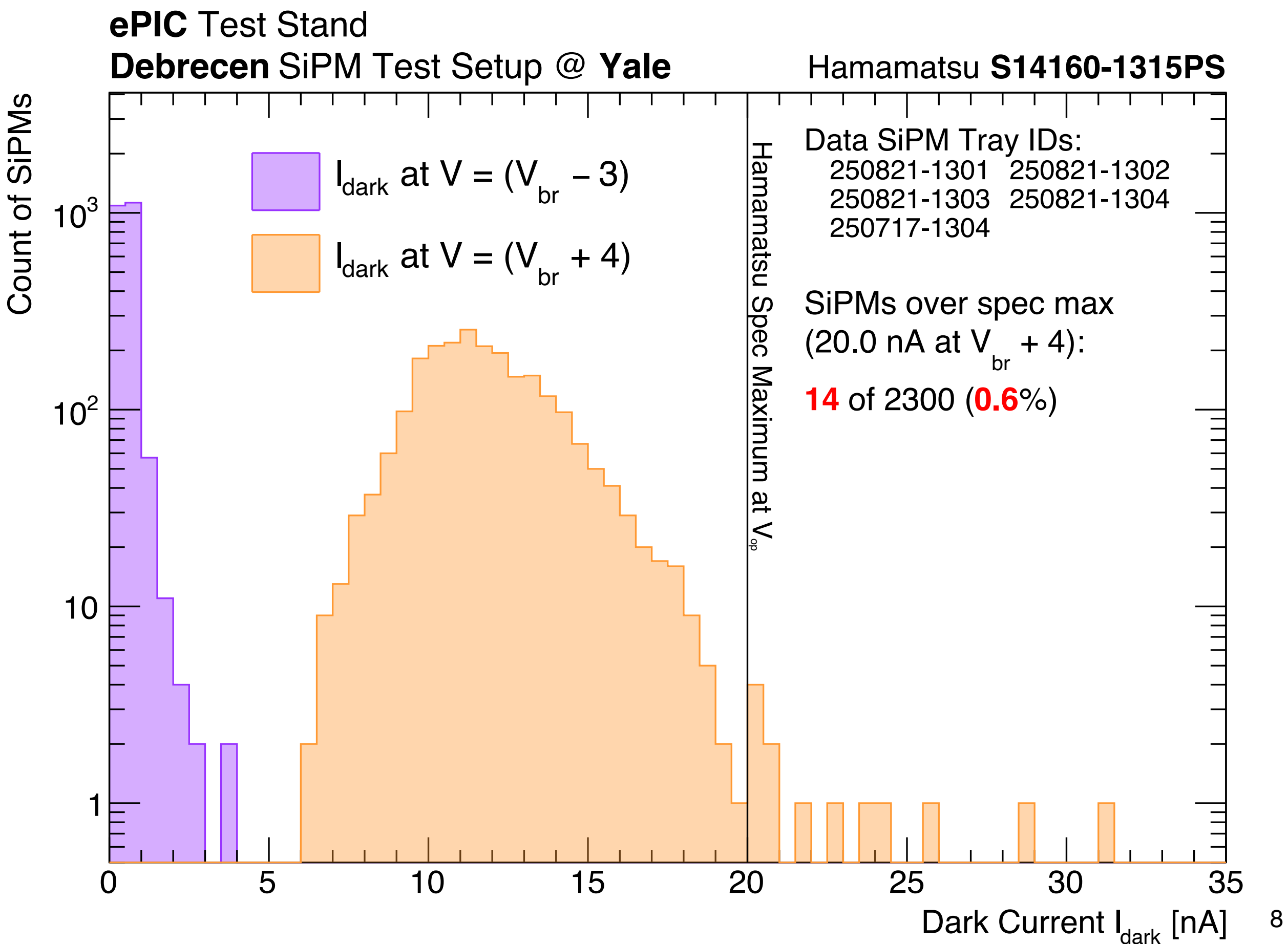
Tray Comparison

SiPMs seem generally comparable in behavior

New Tray 250717-1304

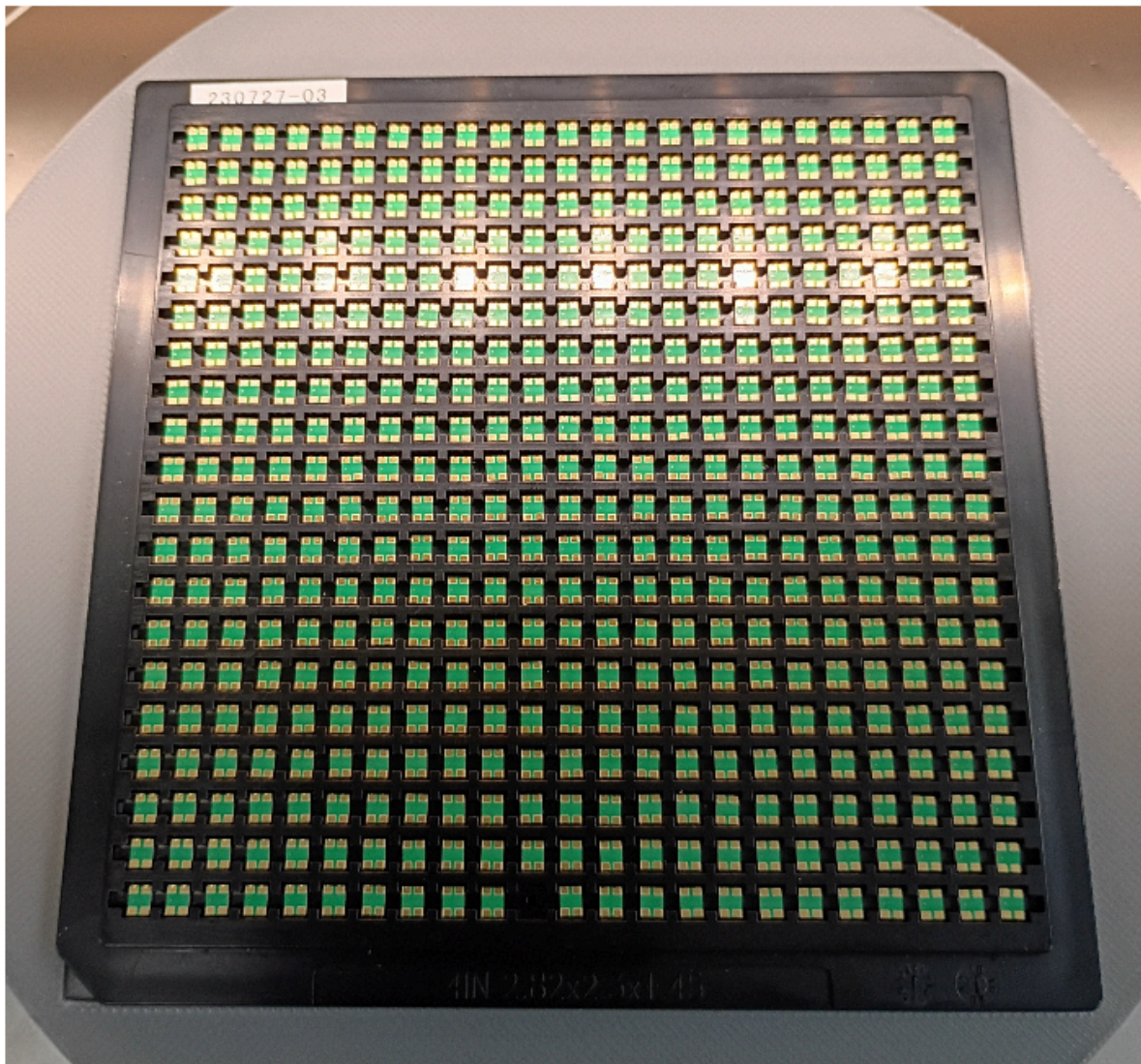
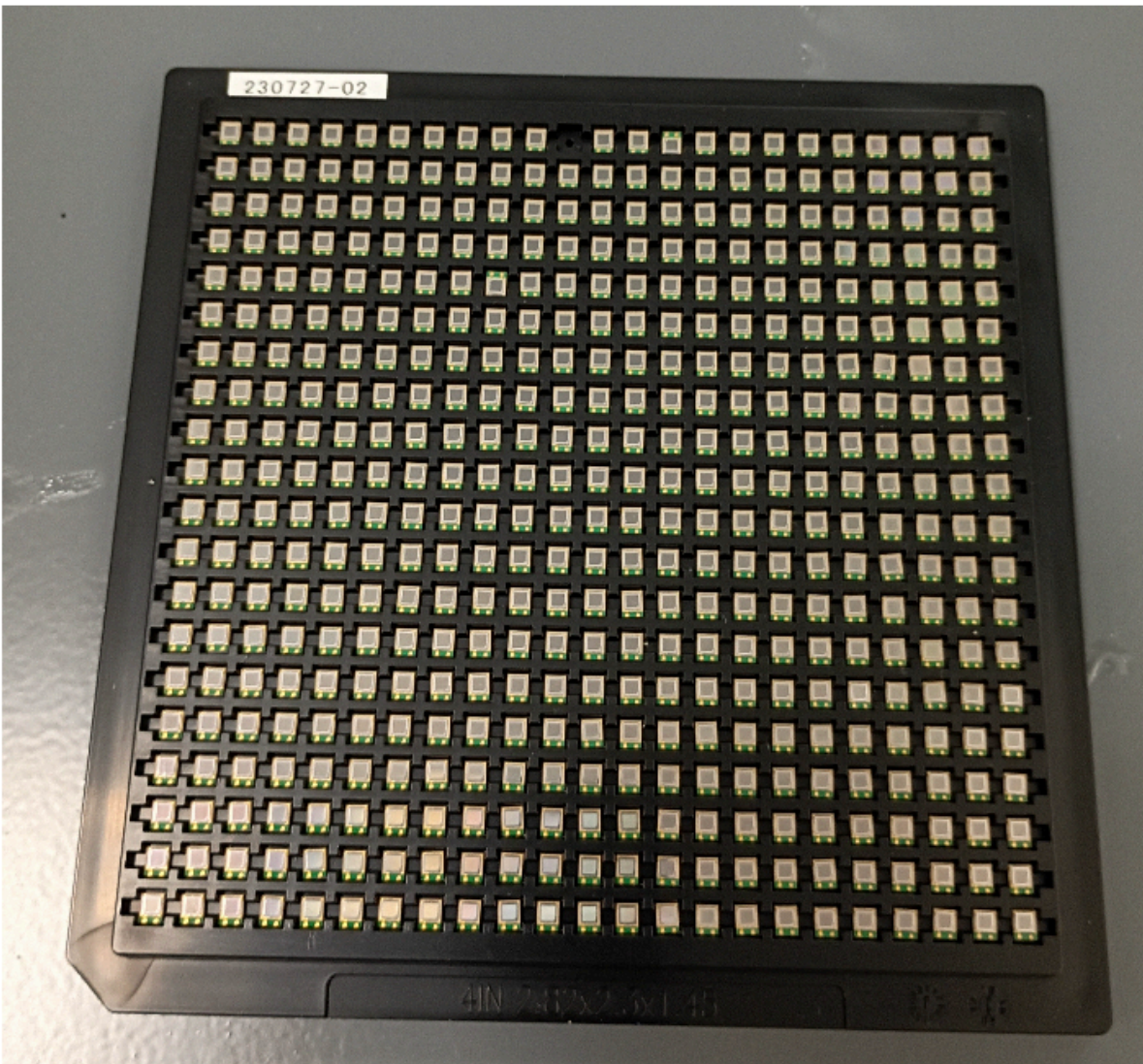
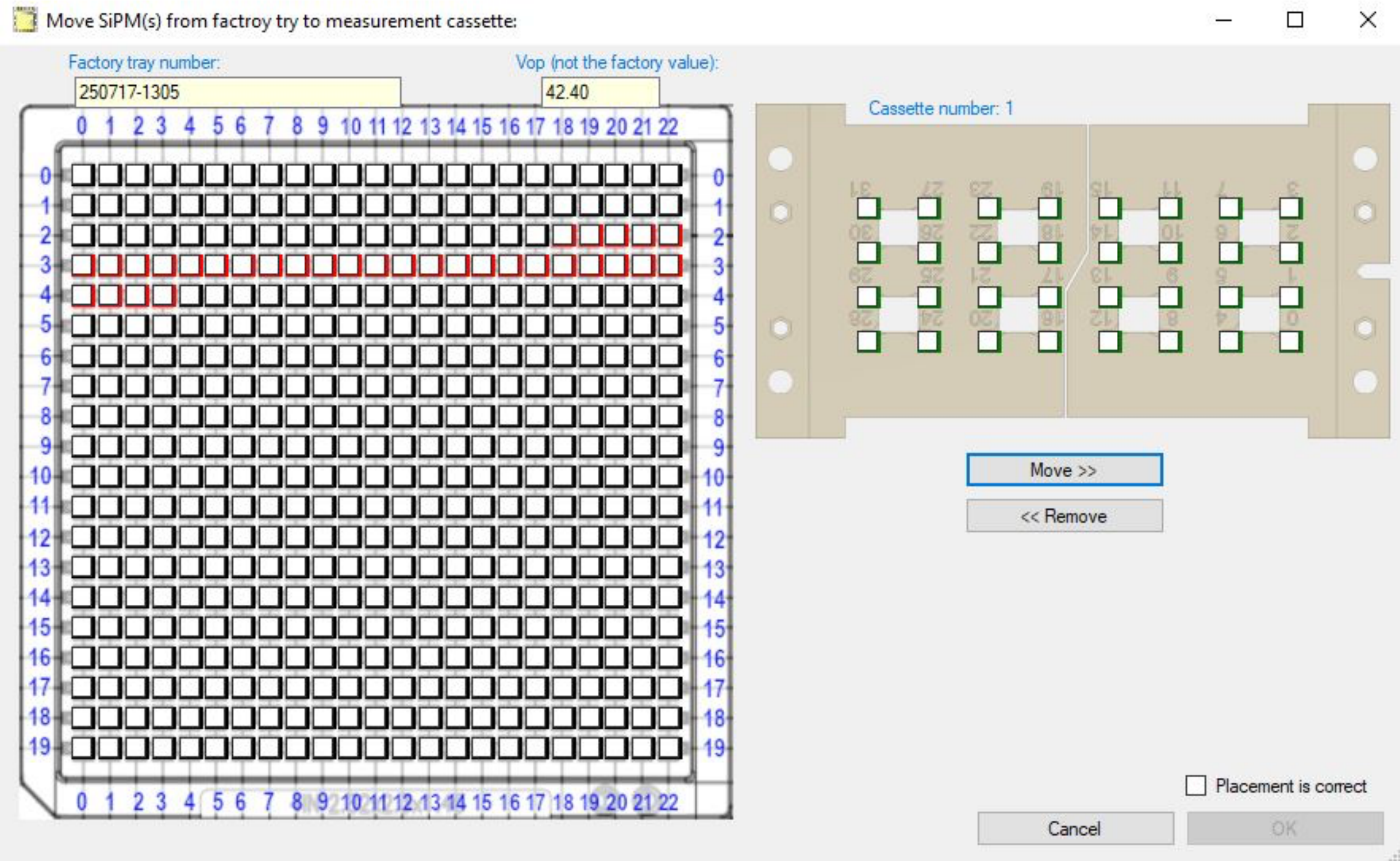


All Tray Data



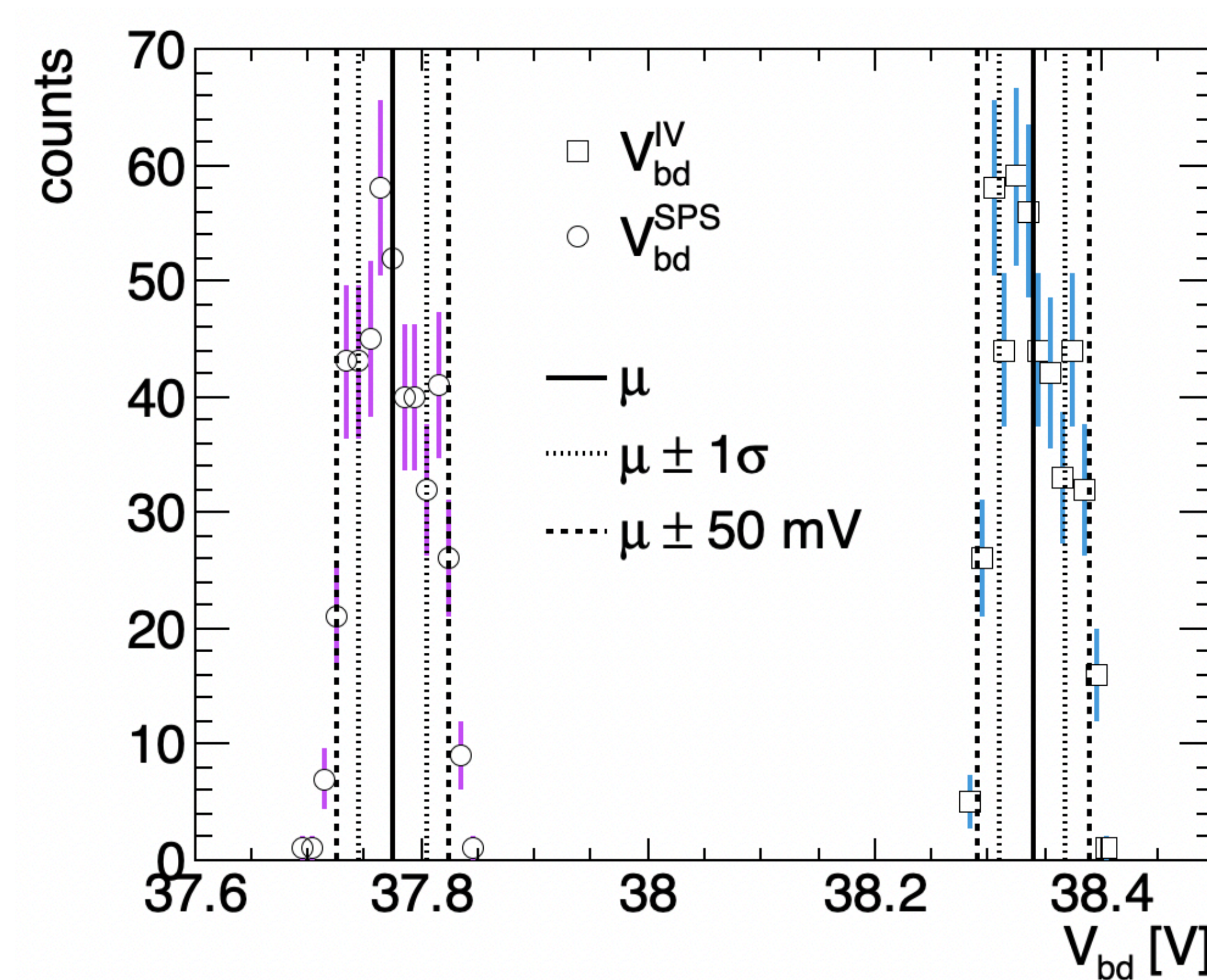
Next Step: Correlating with ORNL

Do we see the same outliers?



Breakdown voltage distribution

(Temperature-corrected, 250717-1304)



Technically, 10.8% and 11.9% outliers for the two methods, respectively, after temperature correction.

[Different from numbers quoted on s. 4 due to different method for calculation. Either way, by qualitative visual analysis, looks on par with what we have had for previous trays.]