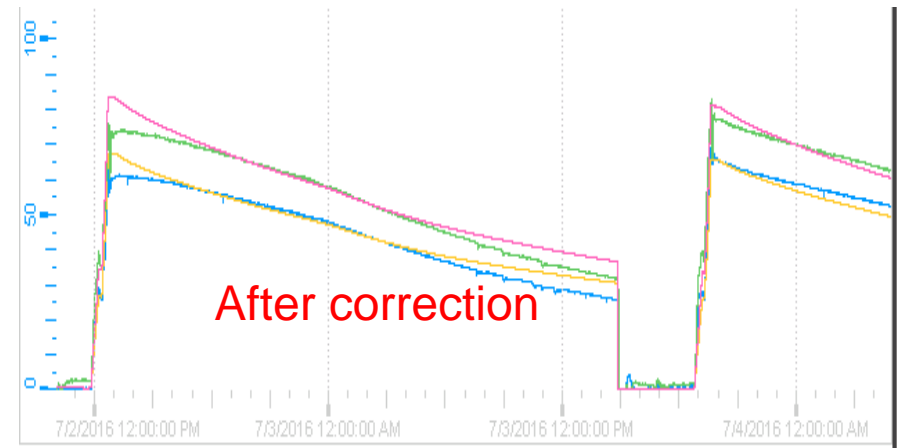
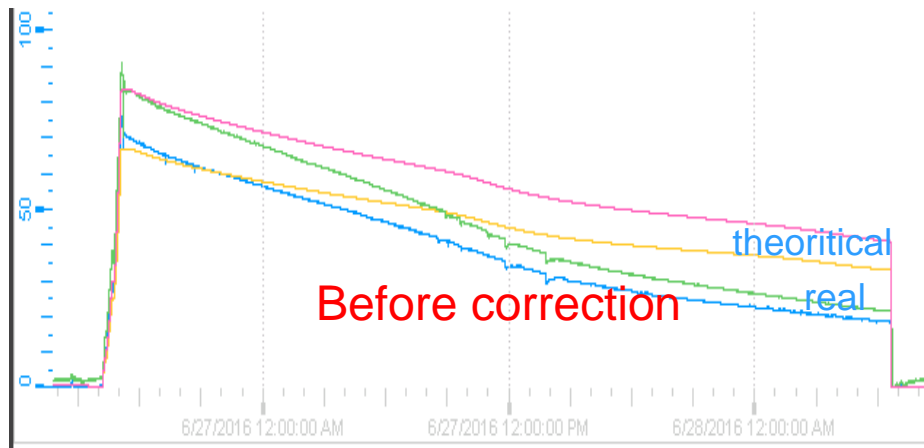
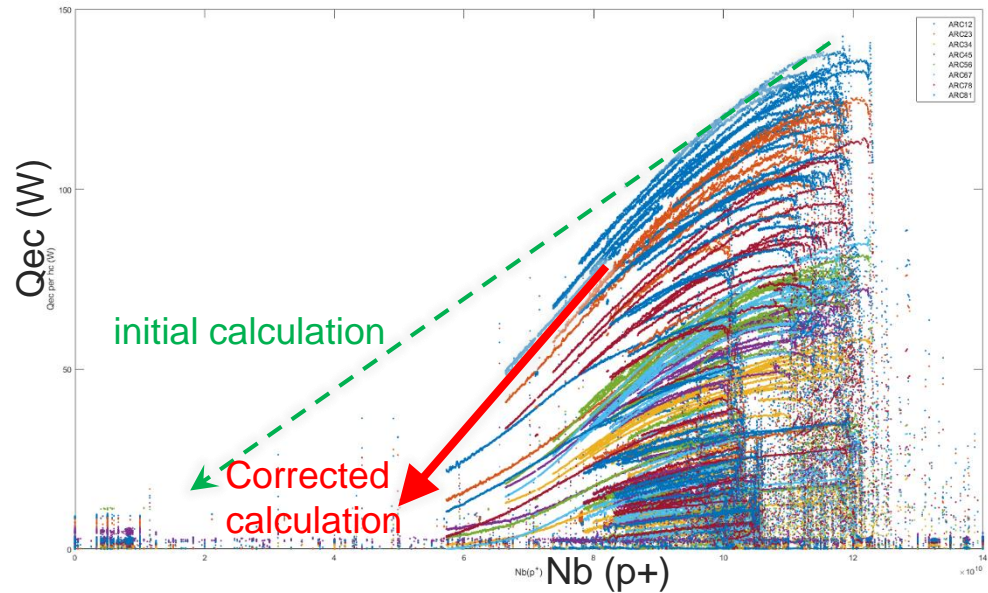


# QBS evolution

E. Rogez  
TE/CRG-OA – 13/07/2016

# Feedforward evolution

- For long fills, theoretical heat load calculation has been corrected.
- Heat load decrease with intensity is corrected.



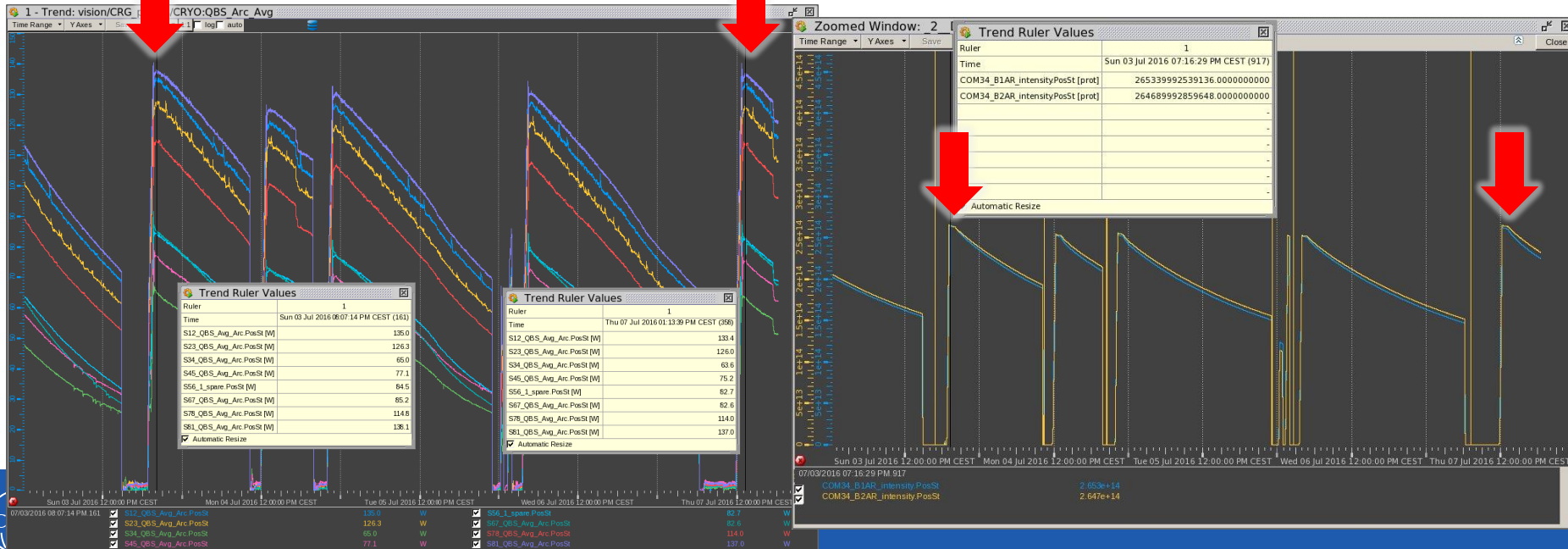
7/8/2016 5:28:27 PM .871

S34_QBS_Avg_Arc.PosSt	46.9
QBS_THEO_ARC34.PosSt	52
S45_QBS_Avg_Arc.PosSt	56.5
QBS_THEO_ARC45.PosSt	65

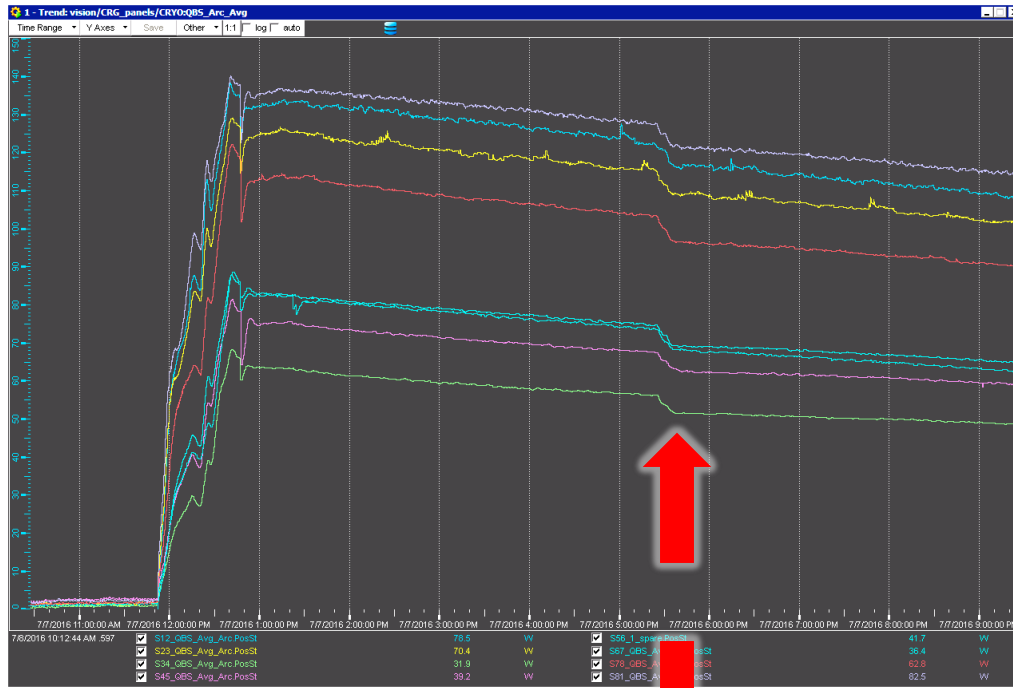
# Batch spacing – heat load impact

date	03-Jul-16	07-Jul-16	Ecart (%)
batch spacing (ns)	250	300	
B1AR	2.65E+14	2.63E+14	
B2AR	2.65E+14	2.65E+14	
QBS_S12_avg (W)	135	133.4	1.2
QBS_S23_avg (W)	126.3	126	0.2
QBS_S34_avg (W)	65	63.6	2.2
QBS_S45_avg (W)	77.1	75.2	2.5
QBS_S56_avg (W)	84.5	82.7	2.1
QBS_S67_avg (W)	85.2	82.6	3.1
QBS_S78_avg (W)	114.8	114	0.7
QBS_S81_avg (W)	138.1	137	0.8

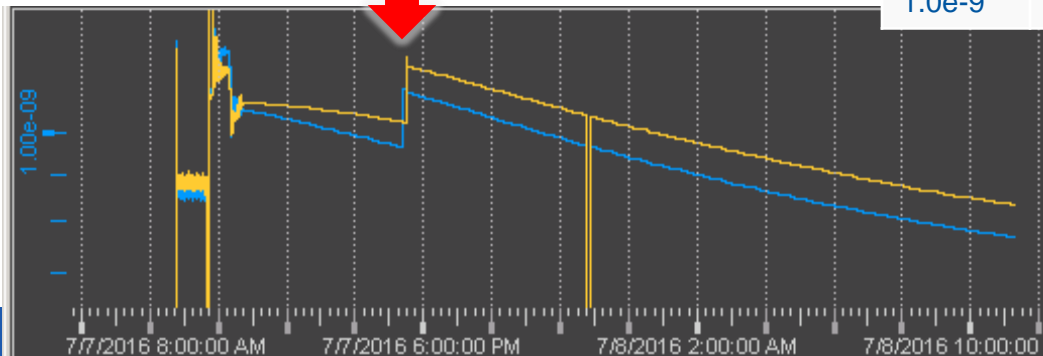
Batch spacing increase to 300ns reduces of 1.6% in average the heat load



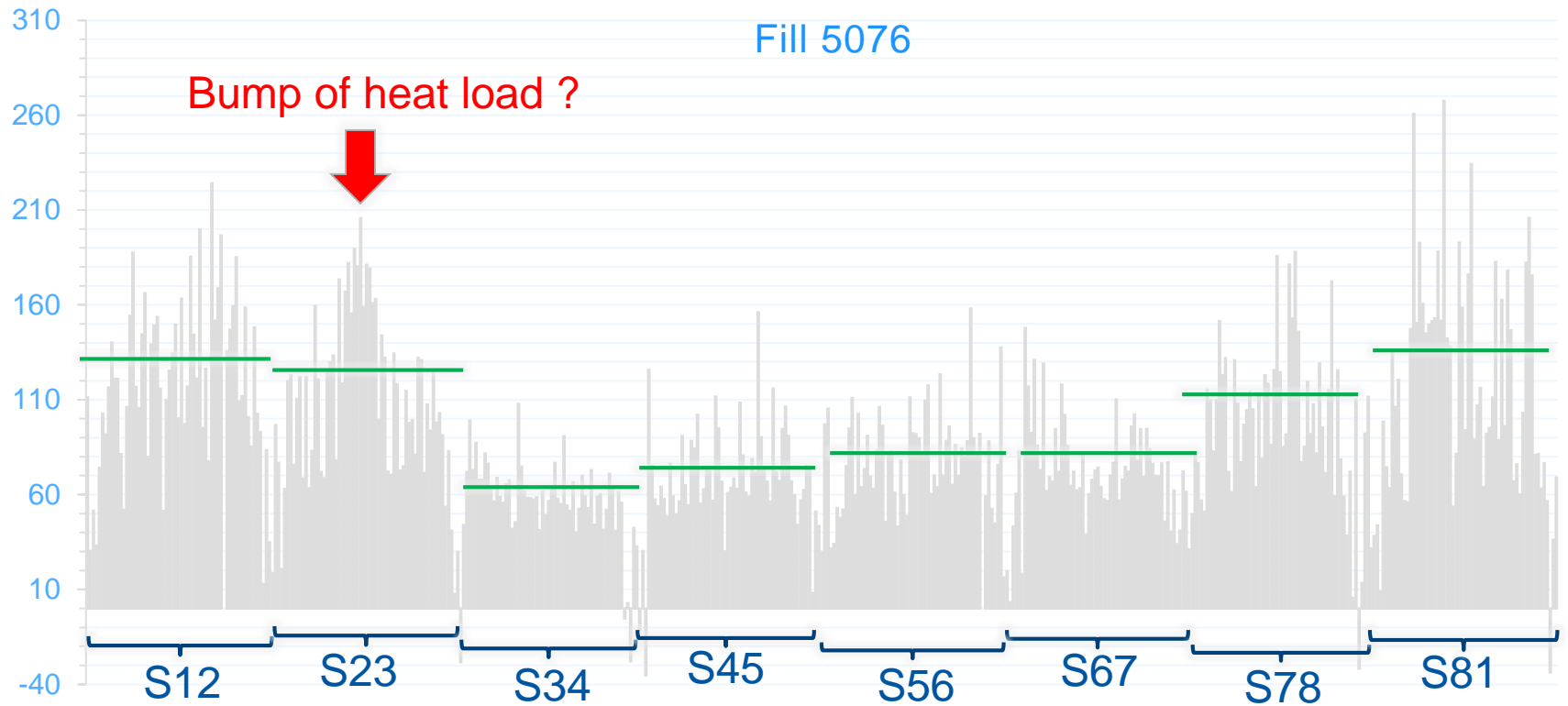
# Bunch length mean – heat load evolution



Before (W)	After (W)	epsilon	%
122.2	116.2	6	4.9
115.4	109.1	6.3	5.4
56.3	51.5	4.8	8.5
67.5	63.2	4.3	6.3
74.8	69.3	5.5	7.3
73.7	68.3	5.4	7.3
103.5	96.4	7.1	6.7
127.7	122.2	5.5	4.3
		Avg	6.2%
Bunch length mean			
9.6e-10		1.4e-10	
1.0e-9		1.4e-10	

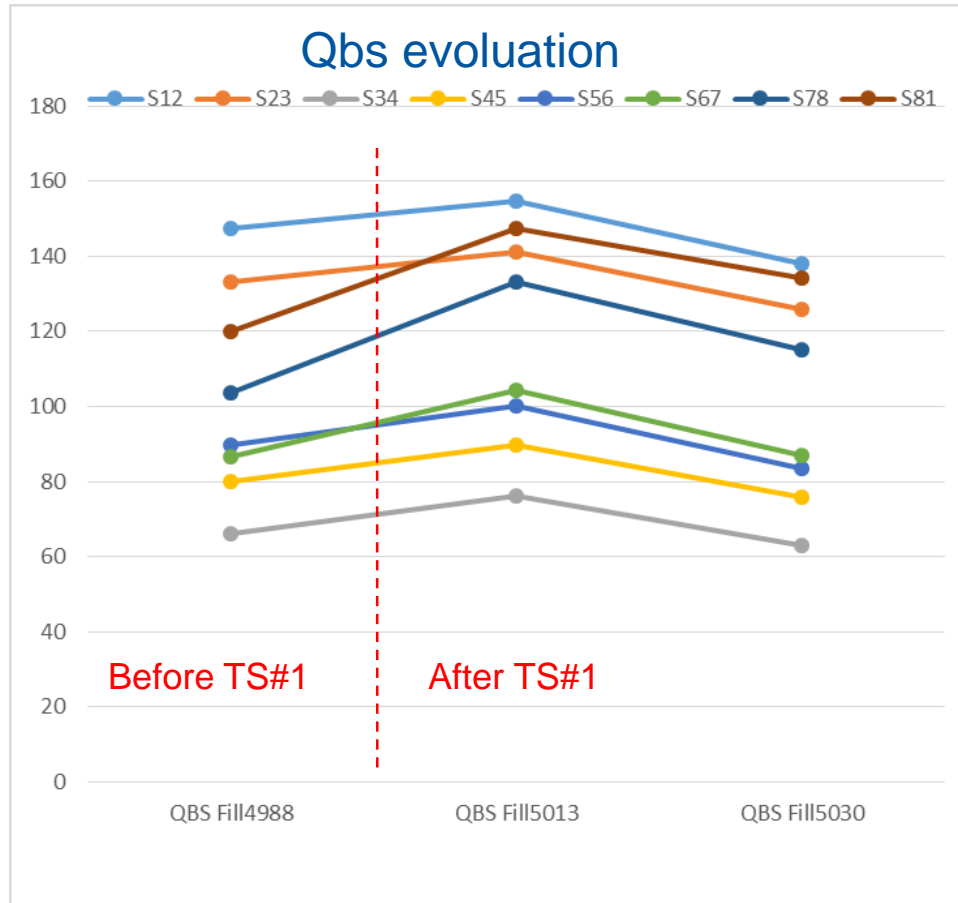


# QBS over the Ihc



# S78 & S81 heat load after TS#1

## - evolution



S78 and S81 are the most impacted by the theoretical heat load calculation correction apply during TS#1.

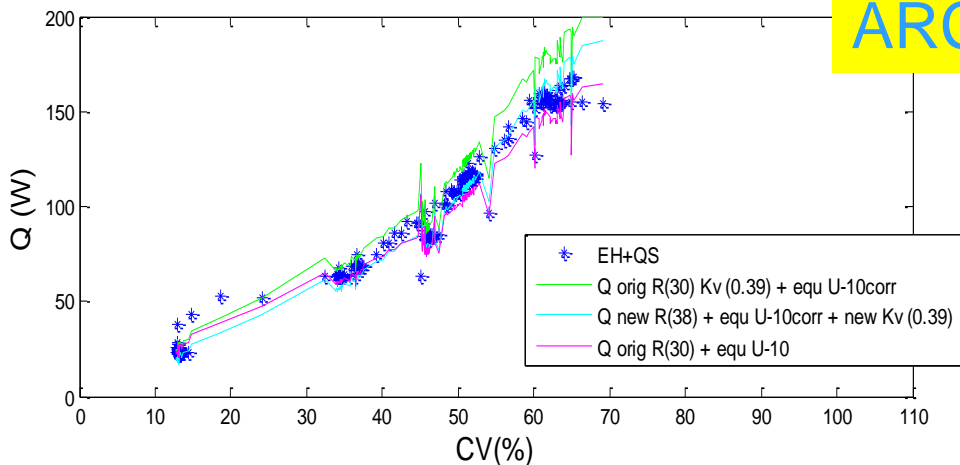
Full sector test performed for :  
S23 and S78.

Sector test to be planned for :  
S12, S34, S45, S56, S67 and S81

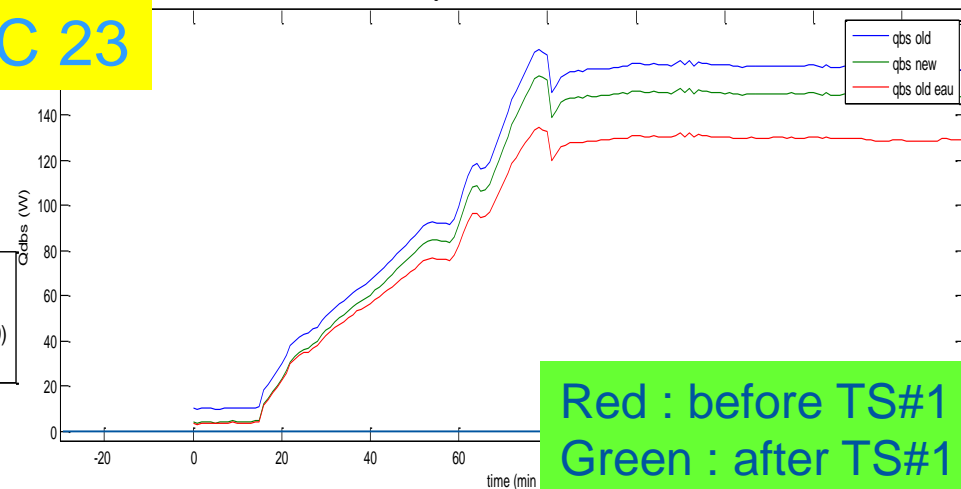
# S78 & S81 heat load after TS#1

## - comparison with S23

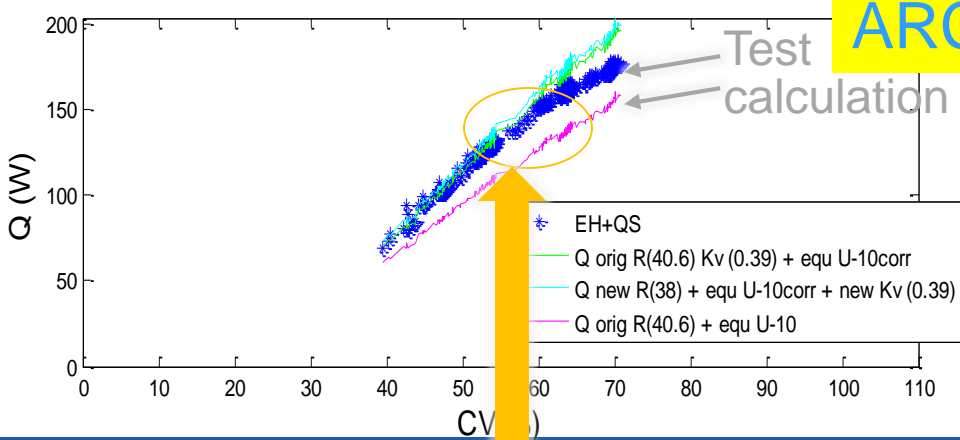
Q total BS Q19R2-943



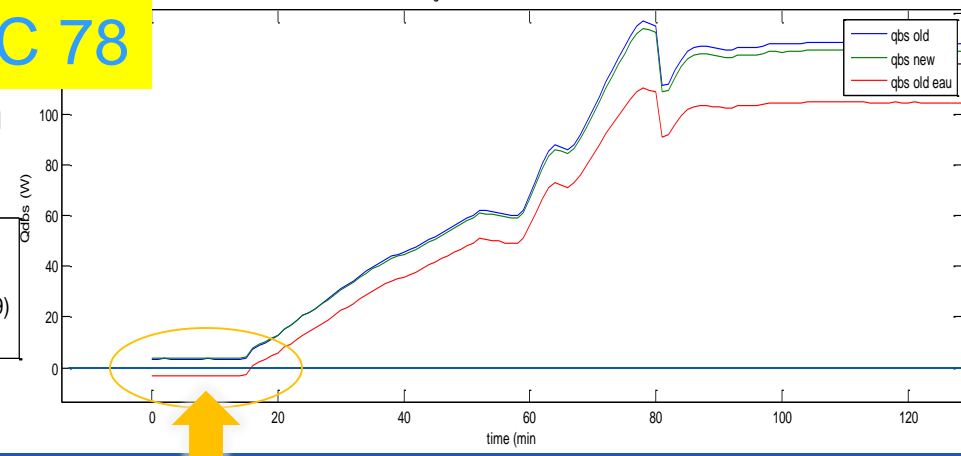
Average beam screen heat load in sector



Q total BS Q21R7-943



Average beam screen heat load in sector



Under estimation corrected

Negative value corrected

