Asynchronous Dump Test after TS2

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Which async dumps when

https://edms.cern.ch/document/1698830/2.1

1. TEST OCCASIONS

The full set of validation tests shall be performed after long shutdowns, HW interventions on relevant systems, collimator realignments and in case of changes of optics in the following machine conditions:

- 450 GeV with injection protection IN
- 6.5 TeV flattop
- 6.5 TeV end of squeeze
- 6.5 TeV collisions
- 6.5 TeV collisions with roman pots IN (bump configuration depending on run scenario)

After technical stops a reduced set of validation tests should be performed:

- 450 GeV with injection protection IN
- 6.5 TeV collisions with roman pots IN (bump configuration depending on run scenario)

Some of the sanity checks

2018-09-23 10:23:27.562000, B1, at 6.5 TeV

2018-09-23_10-23-27, B2, at 6.5 TeV
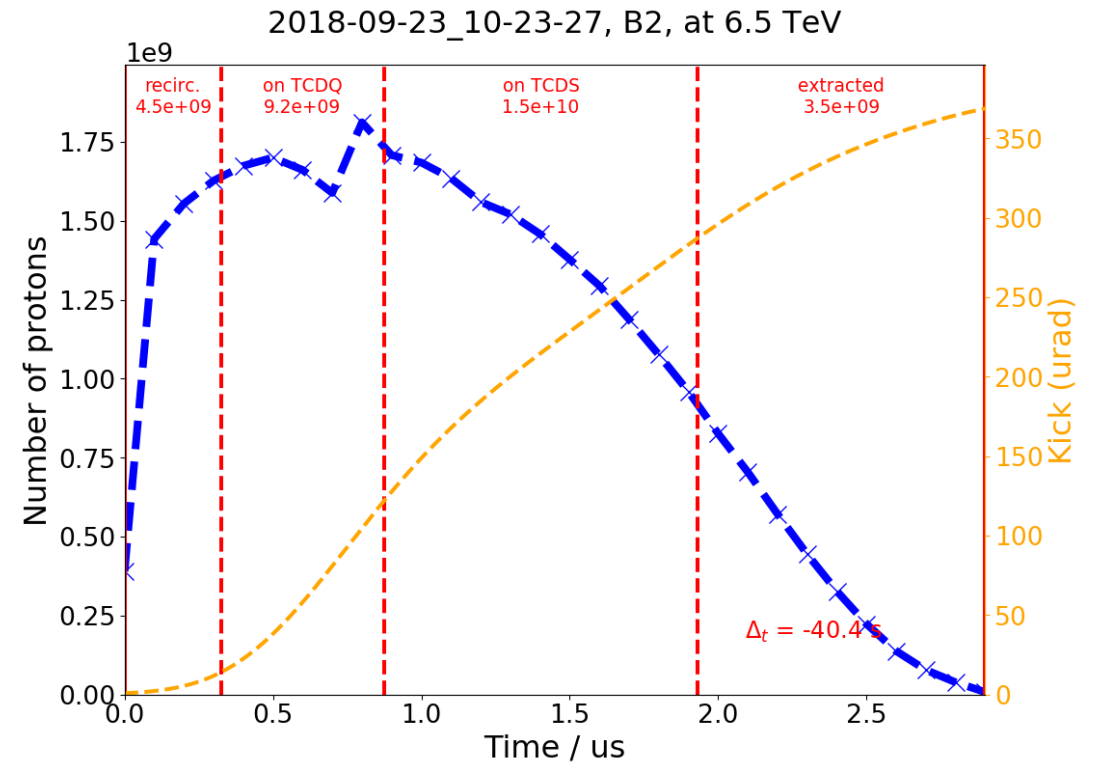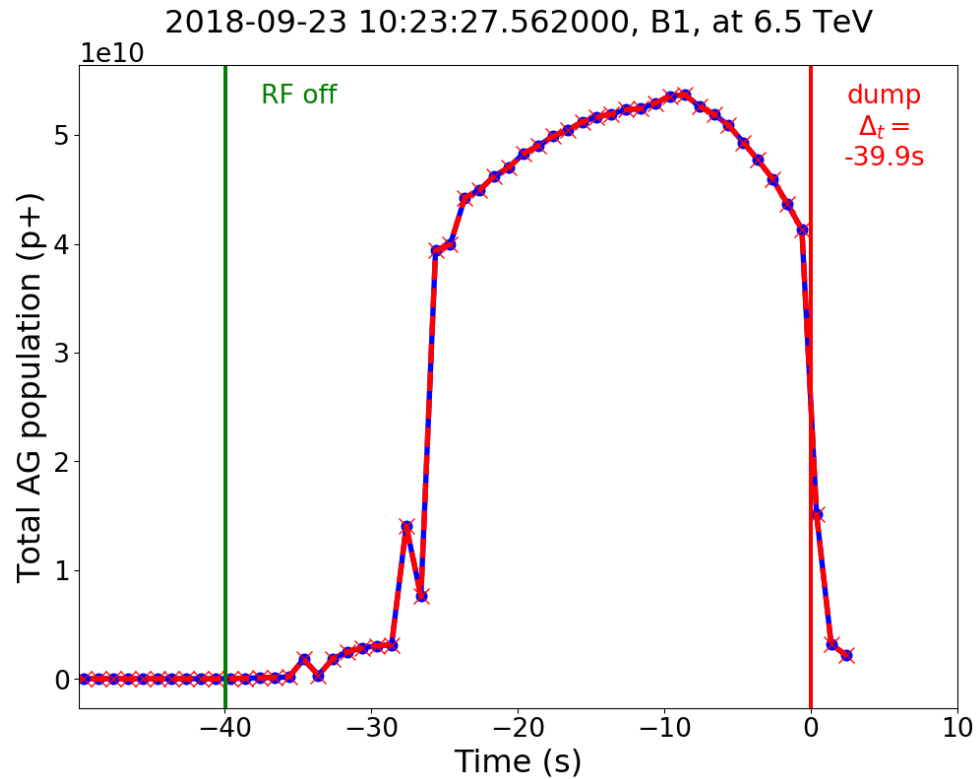
Settings verification

- TCT/XRP positions, beta*, crossing angle, filling pattern

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	time_dump	timestamp_	beam_ene	intensity_	pos_TCDQ_mm	total_AG_pop	protons_recirc.	protons_on_TCDQ	protons_on_TCDS	protons_extracte	rf_was_sw	timestamp_	time_afte	assumed_	filling_pattern	first_buck	time_of_f	first_buck	time_of_first	beta_star_IP1_cm	crossing_a	beta_
2	23/09/2018 10:23	1537691008	6499.08	0	4.43E+00	4.13E+10	6.42E+09	1.13E+10	1.87E+10	4.71E+09	TRUE	1537690968	-39.949	-1.2	[1 17851 22951 23451 2	-1021	0.350036	-811	0.87400154	25	130	
3	23/09/2018 03:58	1537667909	6499.2	0	4.44E+00	2.25E+10	3.70E+09	6.24E+09	1.04E+10	2.15E+09	TRUE	1537667865	-43.657	-1.2	[1 17851 25951 26451]	-1021	0.350036	-811	0.87400154	30	160	
4	22/09/2018 09:31	1537601518	449.88	0	1.55E+01	2.77E+10	4.30E+09	2.95E+09	1.04E+10	9.95E+09	TRUE	1537601462	-56.249	-2	[1 17851]	-933	0.569603	-803	0.89396211	1100	170	1
5	01/07/2018 11:56	1530438995	6499.2	0	4.40E+00	1.03E+11	5.96E+09	1.41E+10	4.76E+10	3.51E+10	TRUE	1530438964	-30.823	-1.2	[1 3001 6001]	-1021	0.350036	-811	0.87400154	6886	60	4
6	30/06/2018 08:01	1530338490	6499.2	0	4.42E+00	2.00E+10	5.84E+09	7.29E+09	6.04E+09	7.52E+08	TRUE	1530338441	-49.308	-1.2	[1 7941 11941 14941 1	-1021	0.350036	-811	0.87400154	9259	60	4
7	29/06/2018 06:20	1530246019	6499.2	0	4.42E+00	5.49E+10	1.17E+10	1.64E+10	2.21E+10	4.56E+09	TRUE	1530245975	-44.221	-1.2	[1 11941 14941 20851]	-1021	0.350036	-811	0.87400154	9259	60	4
8	26/06/2018 03:56	1529978171	6499.2	0	4.40E+00	3.51E+10	8.62E+09	1.32E+10	1.28E+10	3.85E+08	TRUE	1529978126	-44.618	-1.2	[1 7941 11941]	-1021	0.350036	-811	0.87400154	1913	120	1
9	26/06/2018 02:03	1529971386	6499.2	0	4.40E+00	2.27E+10	5.99E+09	7.78E+09	8.29E+09	5.86E+08	TRUE	1529971339	-47.446	-1.2	[1 7941 11941 14941 1	-1021	0.350036	-811	0.87400154	1913	0	1
10	25/06/2018 19:48	1529948921	450	0	1.55E+01	2.16E+10	2.95E+09	1.82E+09	7.69E+09	9.06E+09	TRUE	1529948833	-88.029	-2	[1 3001 6001]	-933	0.569603	-803	0.89396211	1100	170	1
11	25/06/2018 11:07	1529917638	6499.2	0	4.41E+00	4.15E+10	1.29E+10	1.52E+10	1.17E+10	1.53E+09	TRUE	1529917593	-44.146	-1.2	[1 17851 24501]	-1021	0.350036	-811	0.87400154	30	160	

Validation

BLMQI.05R6.B1E20_MQY
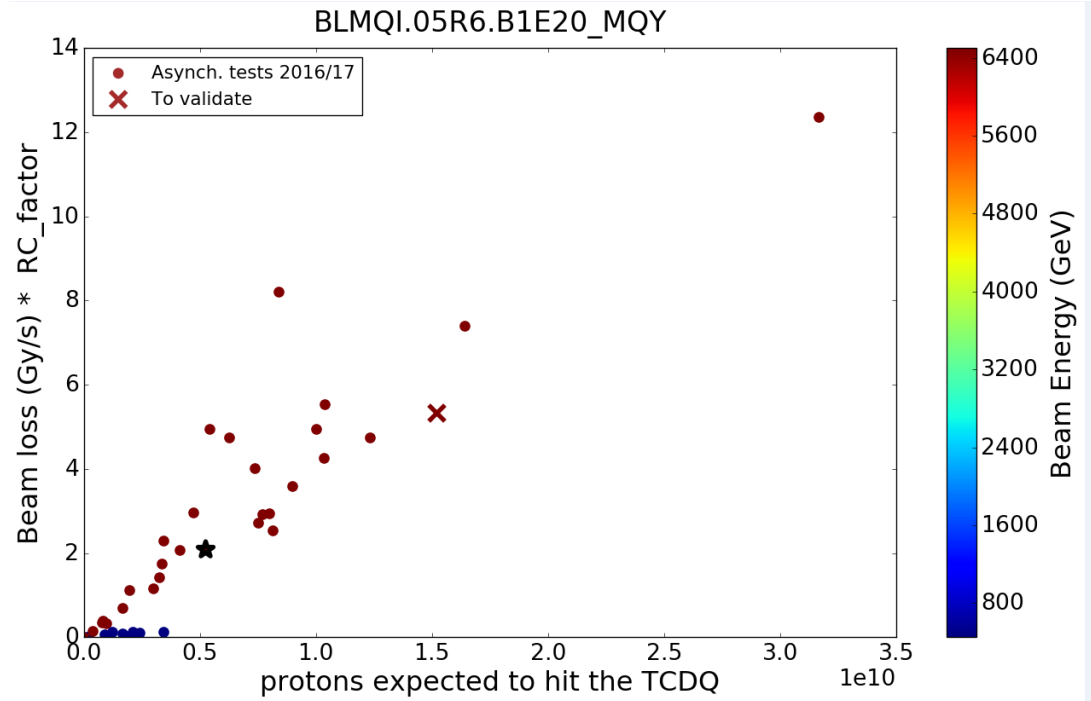
Systematic plotting of data in dump region and line, arc between 6 and 7, TCTs, XRPs

Final check always on full picture, if any loss peak/ratio/asymmetry where it shouldn't be
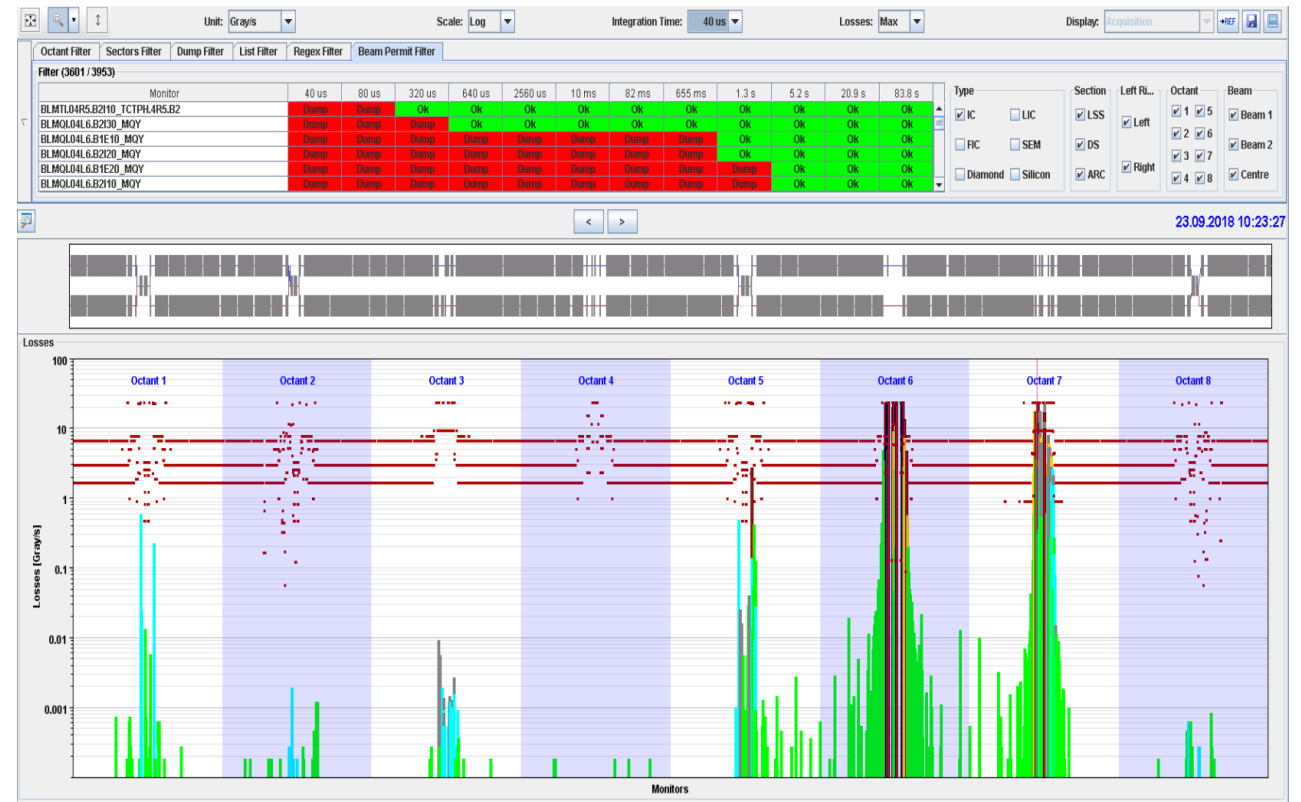
Coming in…

- Rather a verification tool for Hilumi optics zoo
- Could use as automatic comparison to measured data