INTT chip saturation issue

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Chip saturation

- First step: try to reproduce Ryotaro's result presented in last week
- Use Cheng-Wei's module

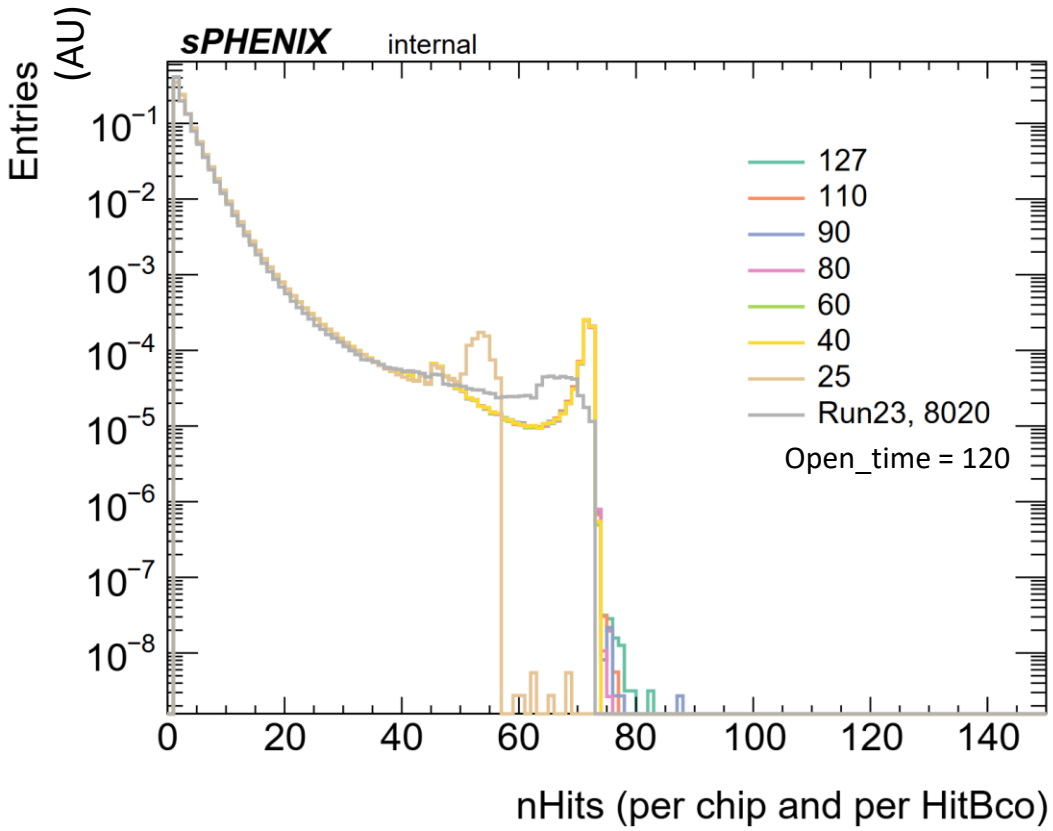
Current focus runs

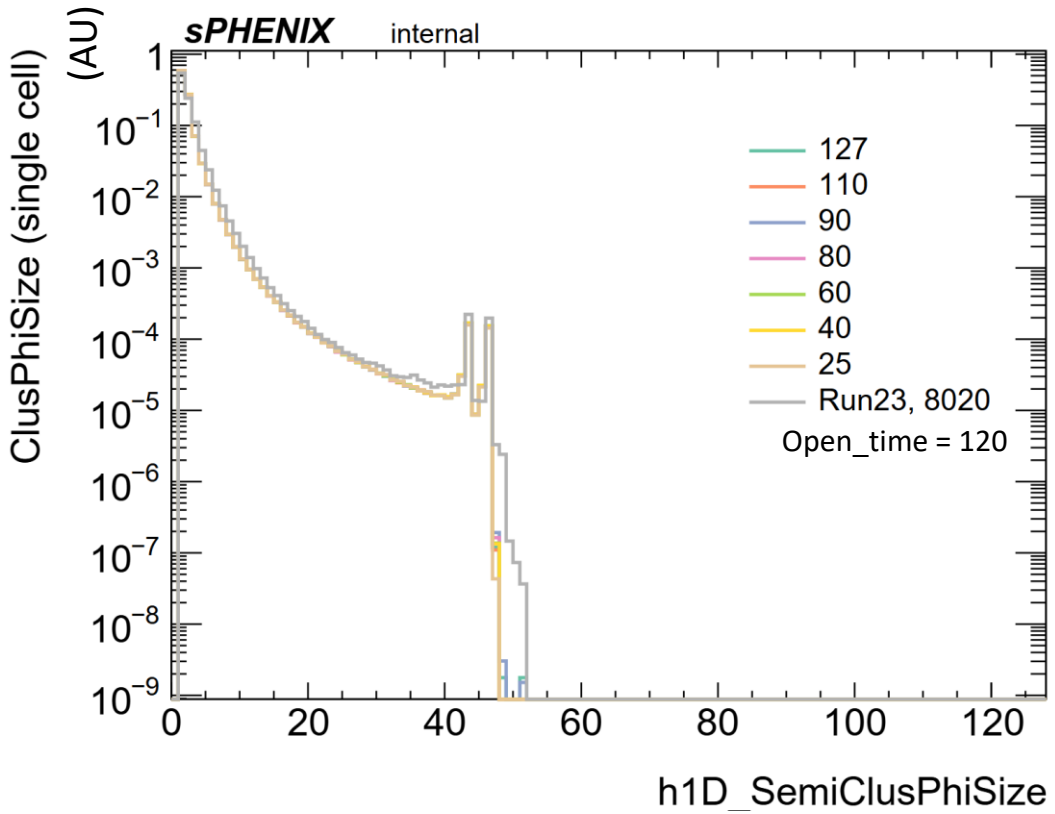
Date/Time	Run#	Run Type	Mag	Link	DAC0	L1 Delay	n_coll	open time
2025/6/15 13:09	67542	beam	On	plot	35	108	100	127
2025/6/15 13:16	67544	beam	On	plot	35	108	100	110
2025/6/15 13:22	67545	beam	On	plot	35	108	100	90
2025/6/15 13:27	67546	beam	On	plot	35	108	100	80
2025/6/15 13:33	67547	beam	On	plot	35	108	100	60
2025/6/15 13:39	67548	beam	On	plot	35	108	100	40
2025/6/15 13:45	67549	beam	On	plot	35	108	100	25

N_coll = 100, diff. open_time

- Same result as Ryotaro's for the nHits part: open_time = 25 has diff. shape
- Cluster size -> all the same with diff. open_time

Stack all chips



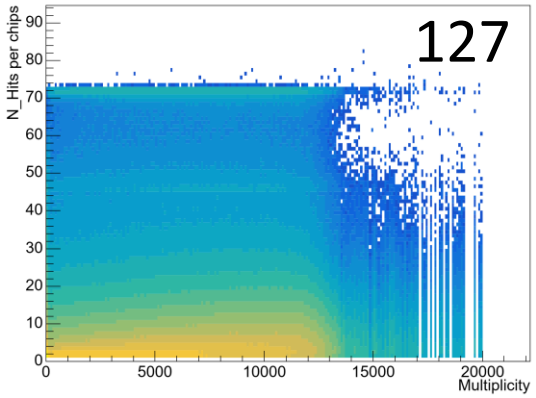


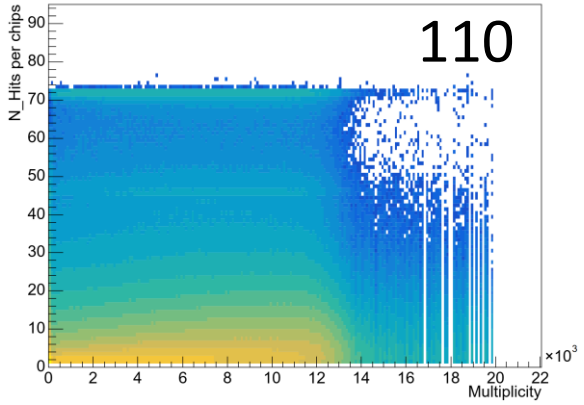
nHits vs. multiplicity

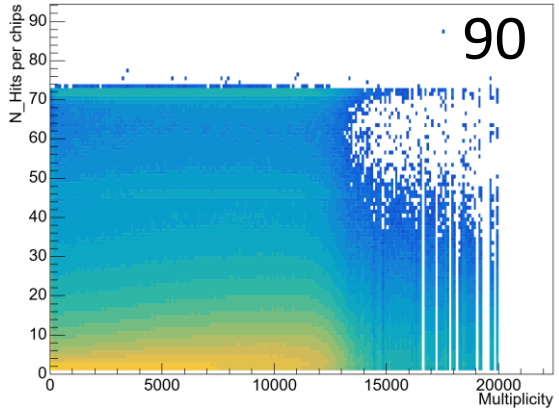
- nHits (per chips per bco) vs. multiplicity (total hits per bco)
- Multiplicity seems to be nothing to do with the saturation issue

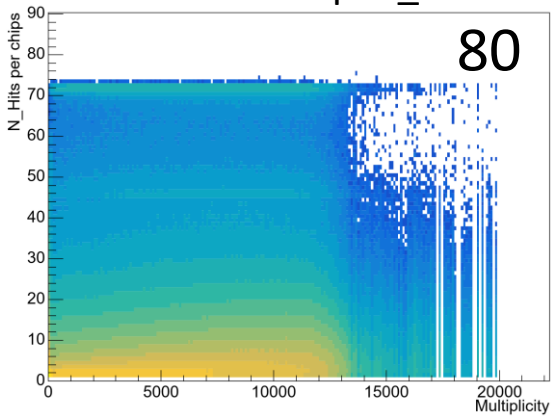
Include all chips

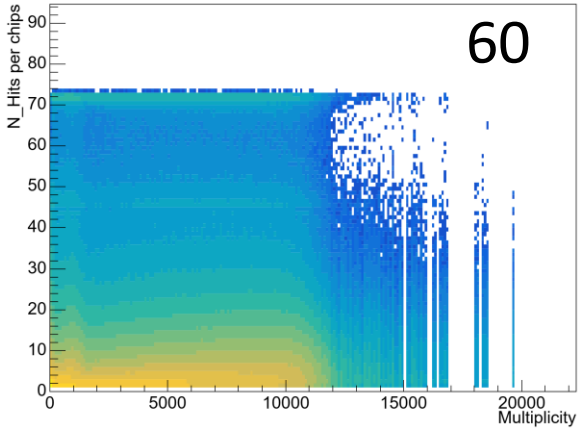
Open_time =

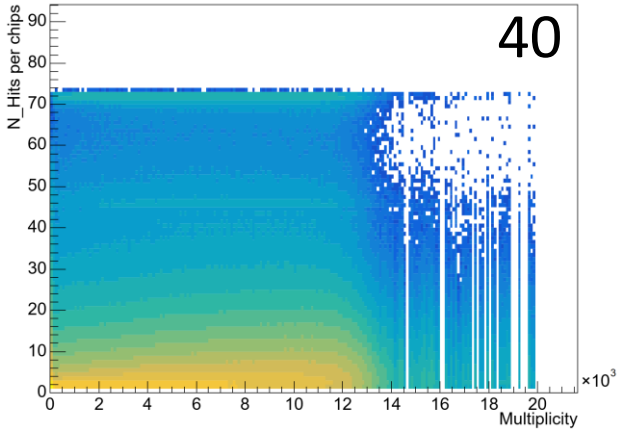


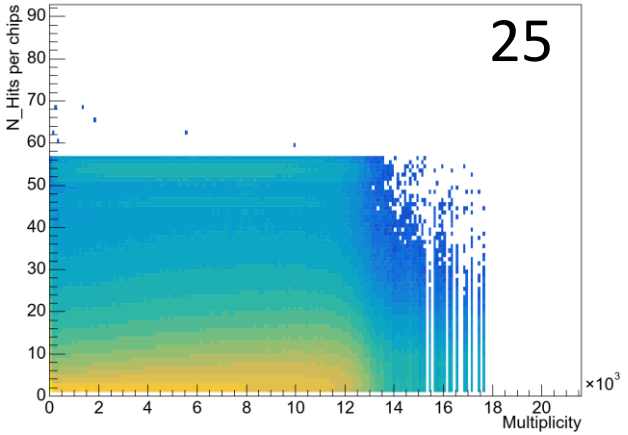










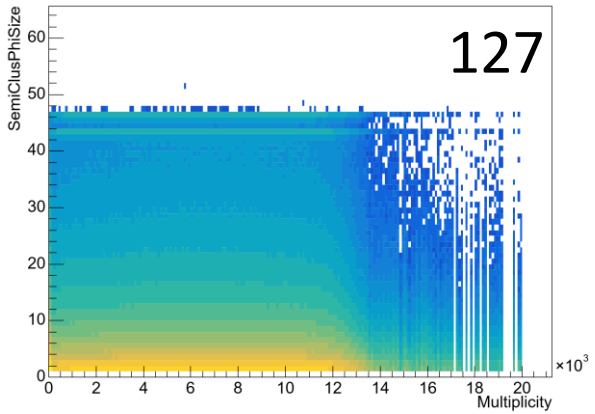


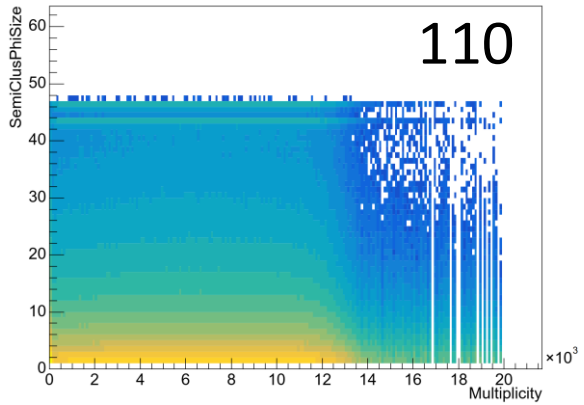
Cluster Phi size vs. multiplicity

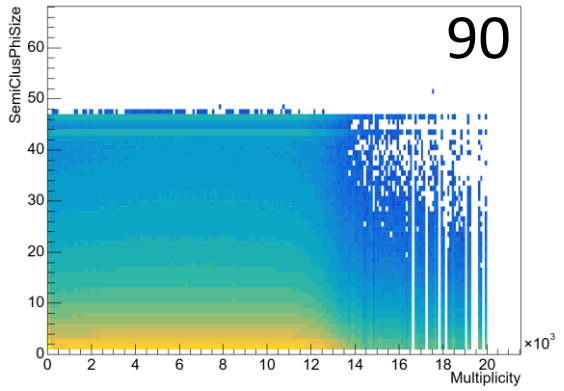
Include all chips

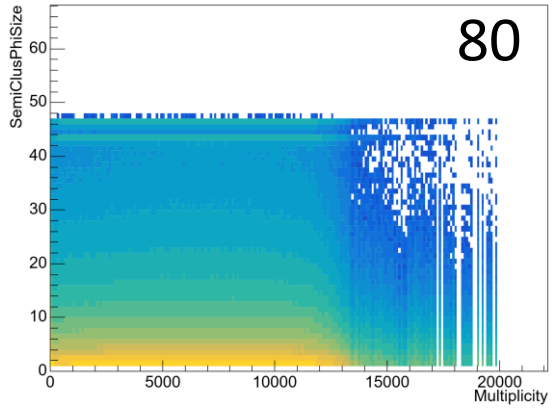
- Cluster size vs. multiplicity (total hits per bco)
- Multiplicity seems to be nothing to do with the cluster phi size distribution

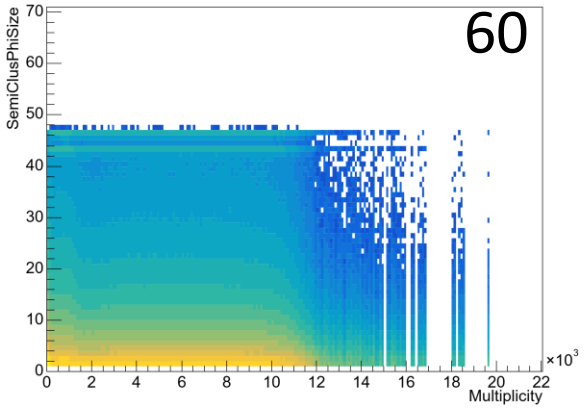
Open_time =

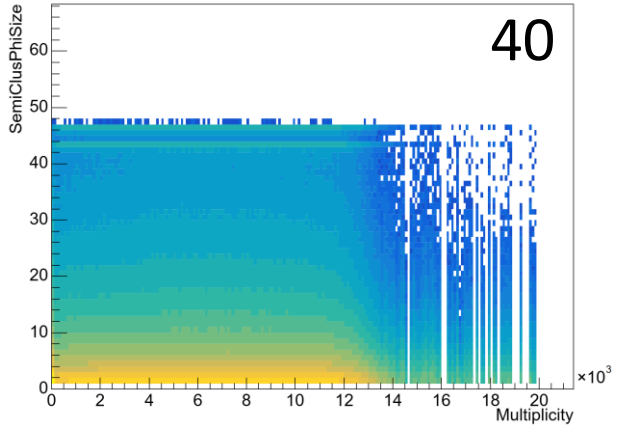


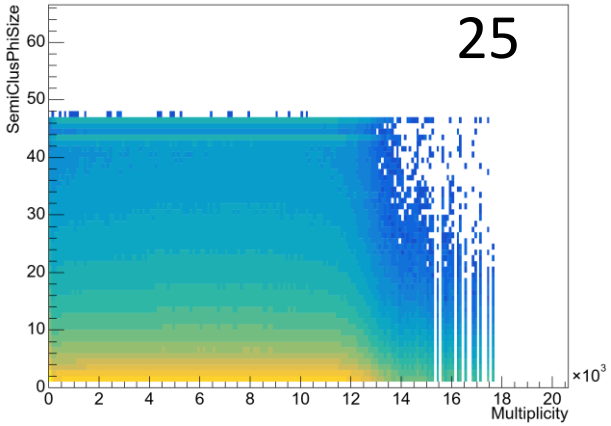










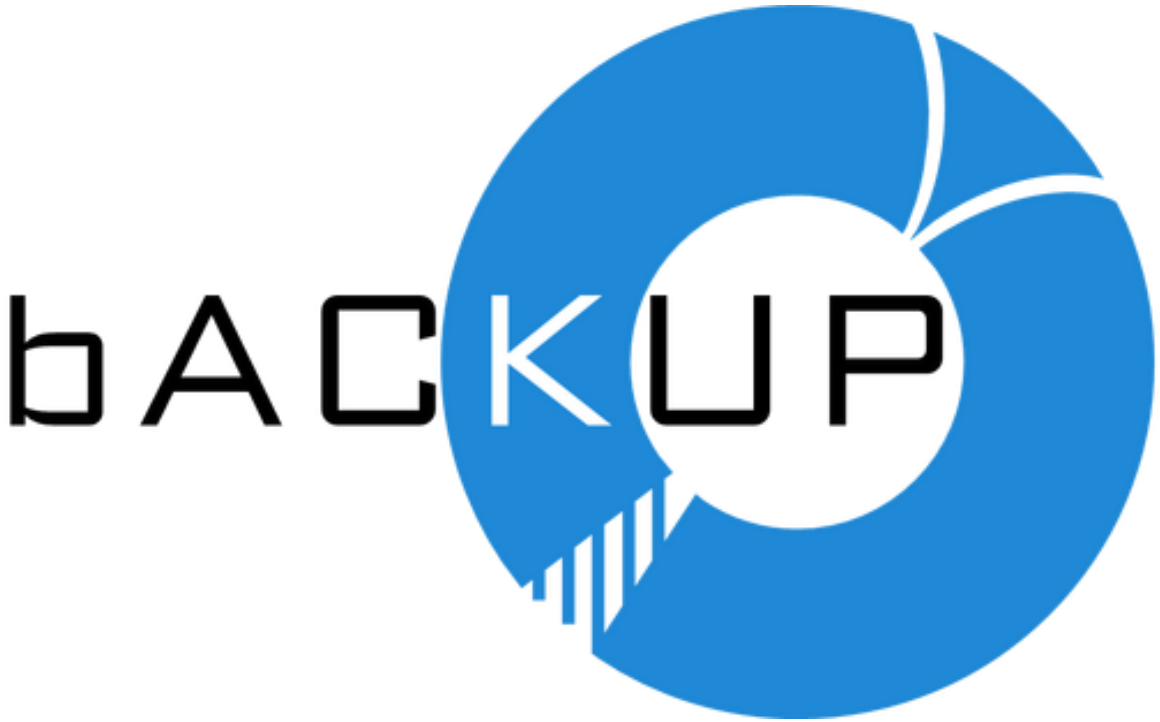


Summary

- I reproduce Ryotaro's result for same n_collision but different open_time
- Multiplicity (total hits per event) seems to have nothing to do with the saturation issue and the cluster phi size distribution

To-do:

- Chip by chip or stack 26 chips?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