

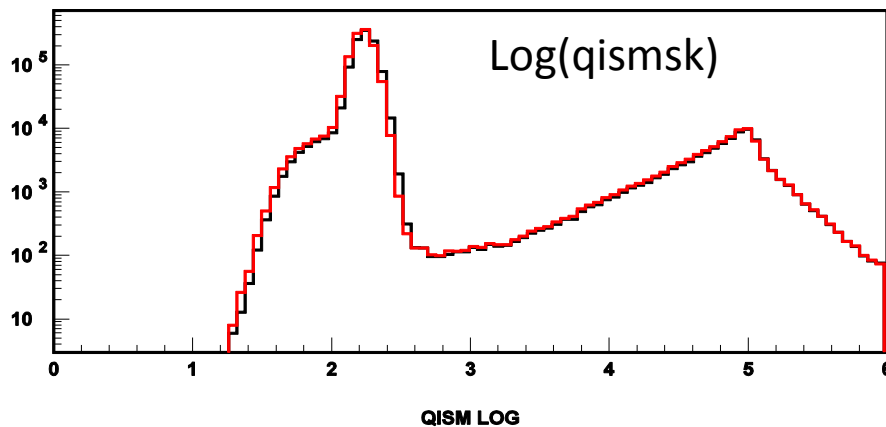
Status of SK4 1st reduction

M.Miura

ATMPD meeting on 2008/12/10

1) New bad channel installed

- Okumura-kun pointed out I don't installed new bad channel into 1st reduction.

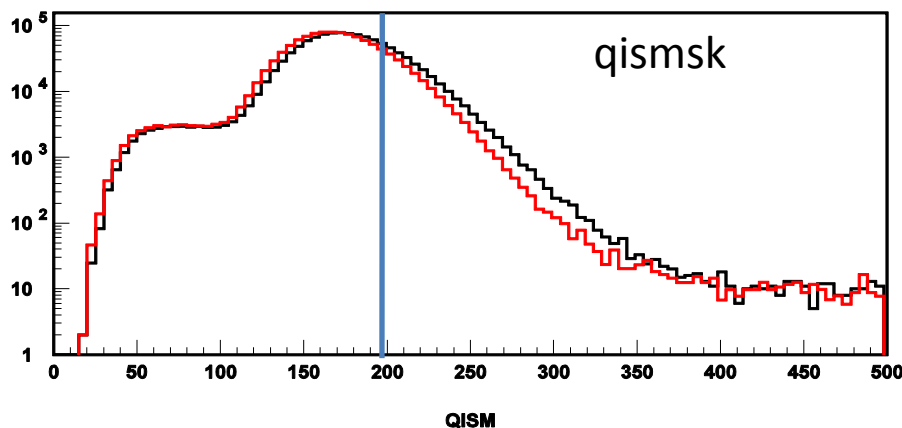


Black: old table

Red: new table

Event rate(/hour)

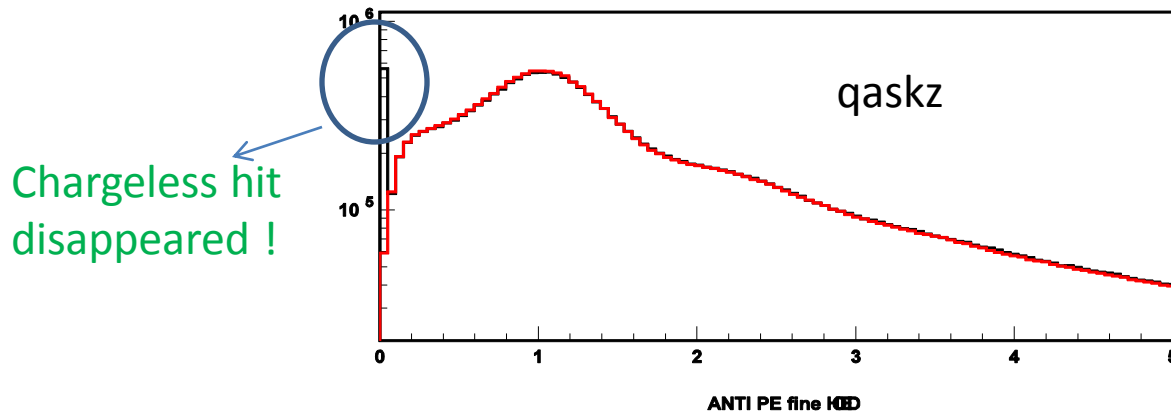
Old	35.5
New	25.2
SK3	49.2



Qismsk is decreased and event rate is also decreased with new bad channel table.

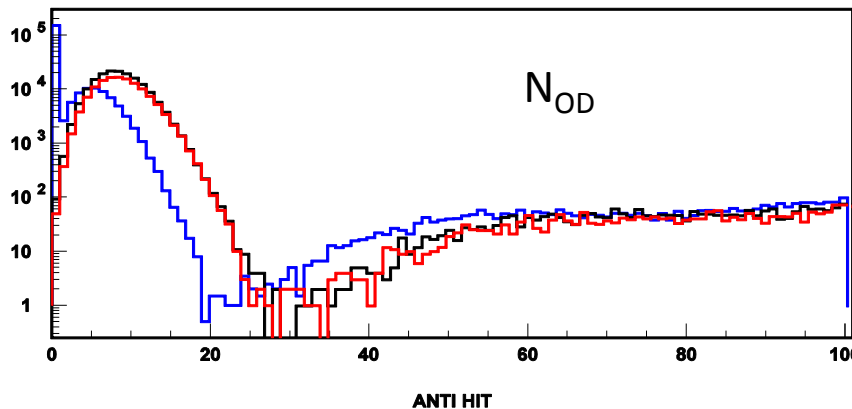
2) New Qbee constant table

- It turns out Qbee constant table was wrong.
- Correct version was installed on Nov.27.
- Check the effect.



Black: before fix (Run61962)
Red: after fix(Run62447)

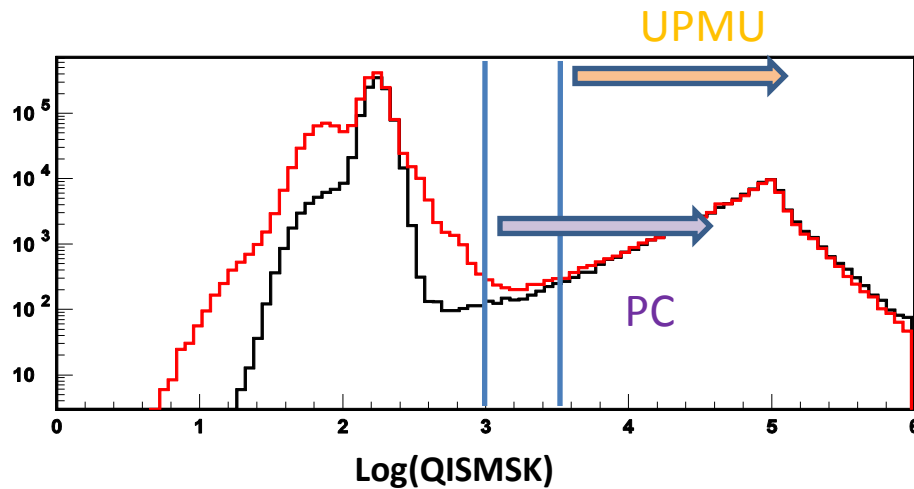
However, N_{OD} distribution is almost same. Need to think other reason ...



Black: before fix (Run61962)
Red: after fix(Run62447)
Blue: SK3(Run35164)

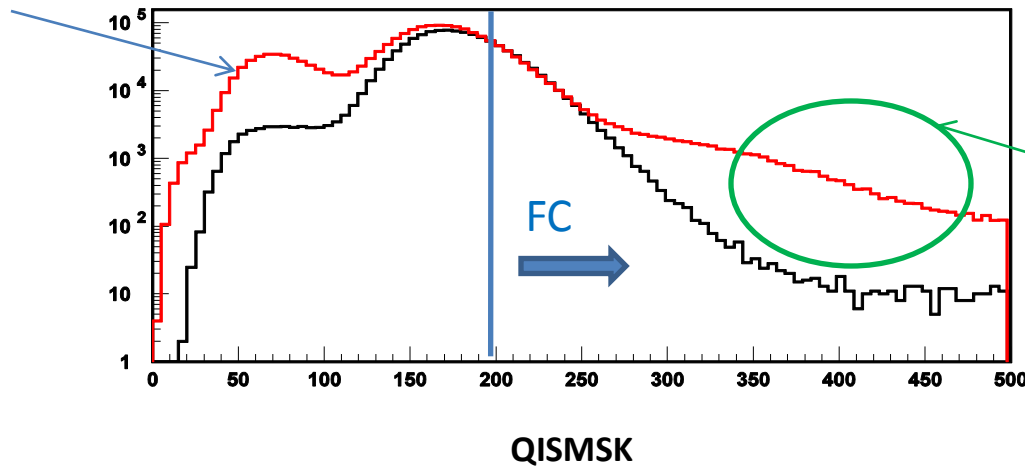
	Event rate(/hour)
Old	25.2
New	25.1
SK3	49.2

3) QISMSK after $T_{diff} > 100 \mu\text{sec}$ cut

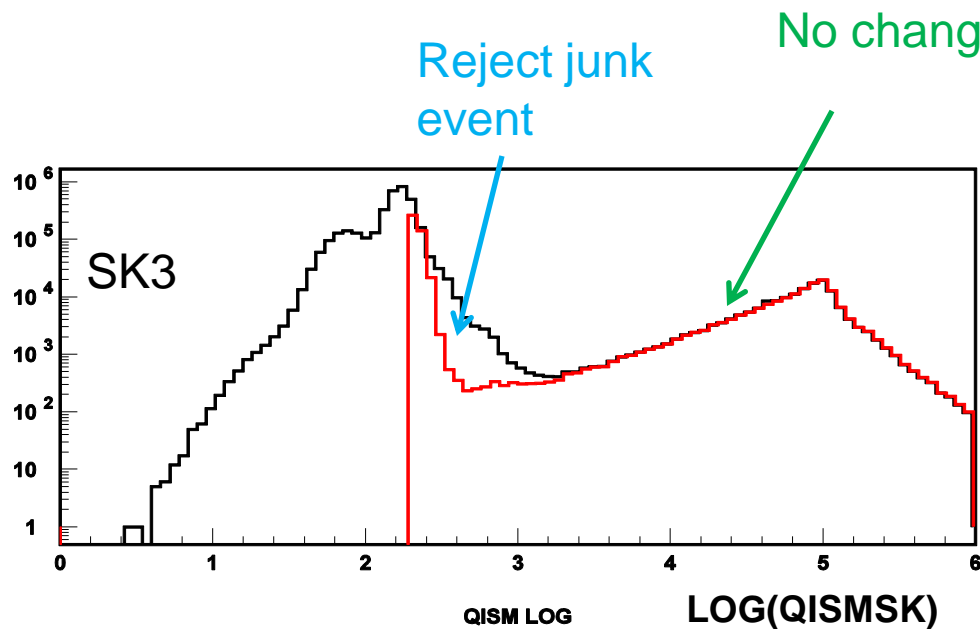


Black: SK-4
Red: SK3

Periodic
trigger

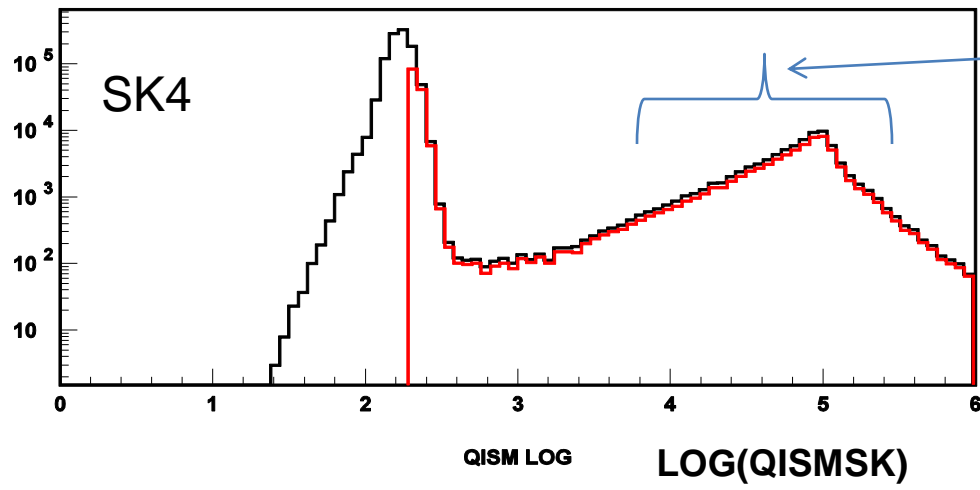


This is due to cable reflection, e.t.c. .
This excess should be disappeared after T_{diff} cut.

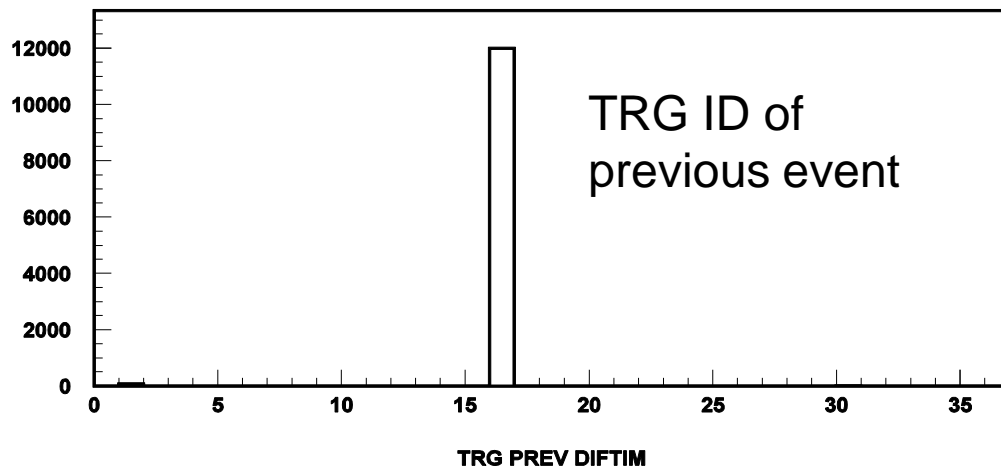
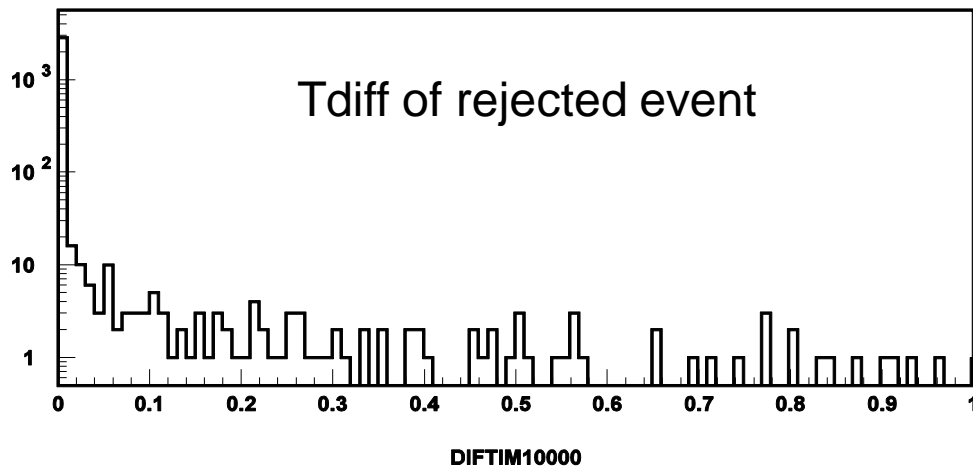


Black: No cut

Red: After $Q_{tot} > 200$ and T_{diff} cut



Slightly decrease event in almost every region. Something is wrong!?



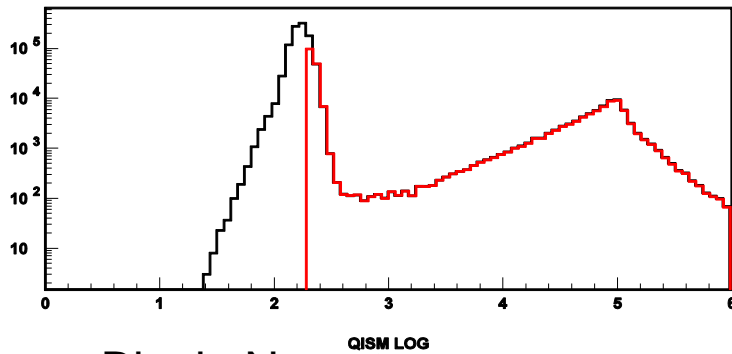
- TRG=16 is OD calib.
- Some constant value is filled in previous time of TRG=16.
- If run is long, the highest bit of counter for event time is incremented and event time becomes negative.
- If TRG=16 exists, it is chosen as previous event, and current time- previous time becomes strange value.



Skip TRG=16

After modification

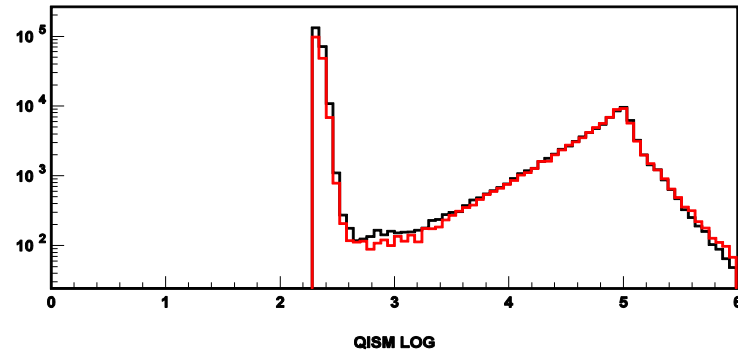
Tdiff cut doesn't reject high Q event.



Black: No cut

Red: $Q_{tot} > 200 \& T_{diff} > 100 \mu s$

SK3 and SK4 agrees.



Black: SK3

Red: Red

	Event rate(/hour)
Old	25.1
New	25.0
SK3	49.1

However, event rate after 1st reduction is almost no change....

Summary

- New bad channel table is installed. Event rate decreased by $\sim 30\%$.
- New Qbee table is installed. OD chargeless hit is disappeared, but NOD distribution is almost same. We may think about changing cut.
- There was a problem in Tdiff calculation. Its effect on event rate is small.