

Hamburg Analysis Workshop - Wrap Up

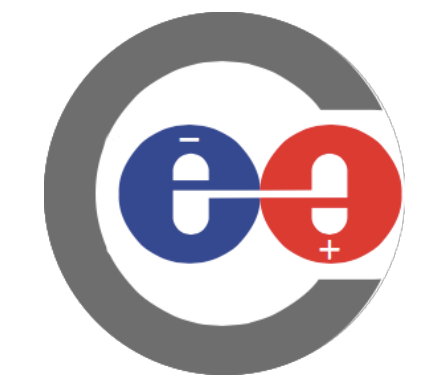
Lorenz Emberger

December 2018

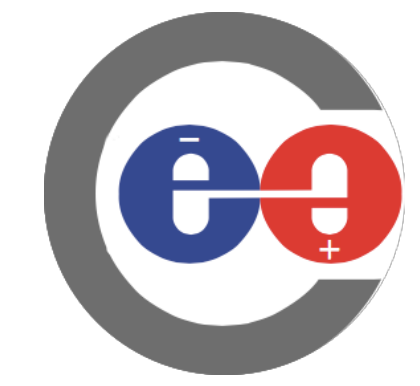


Max-Planck-Institut für Physik
(Werner-Heisenberg-Institut)





- Installation of virtual machine to run EUDAQ, setting up EUDAQ, setting up environment to modify and compile the EUDAQ code
- Trying to understand the program flow (still ongoing)
- Running june reconstruction, general setup of CALICE software

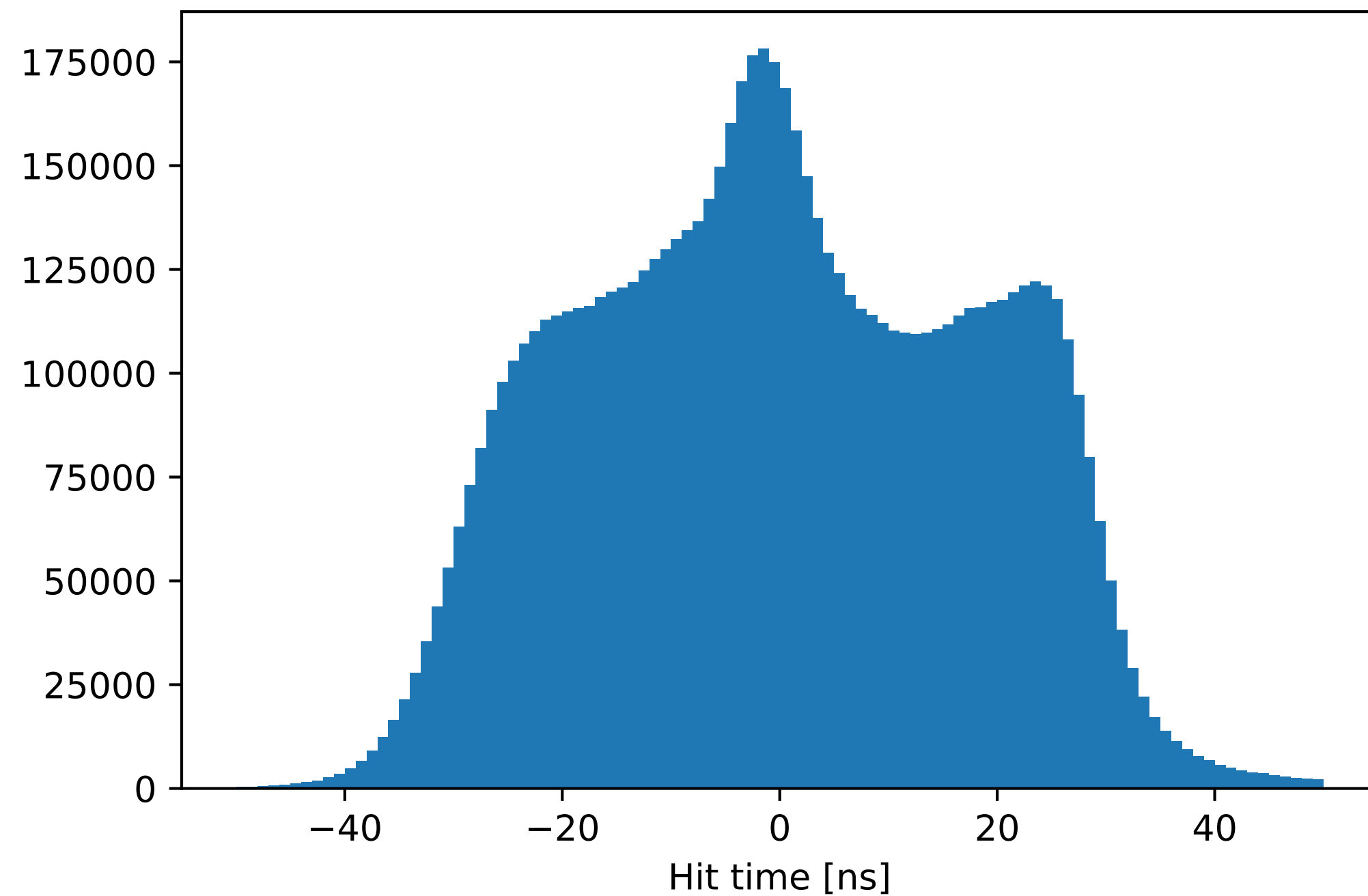


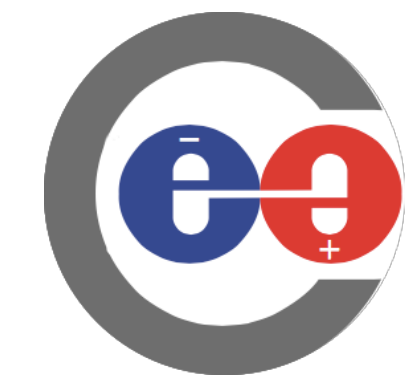
Occupancy Correction



Reminder: Shift of hit time with rising chip occupancy

⇒ Implemented correction in Tokyo





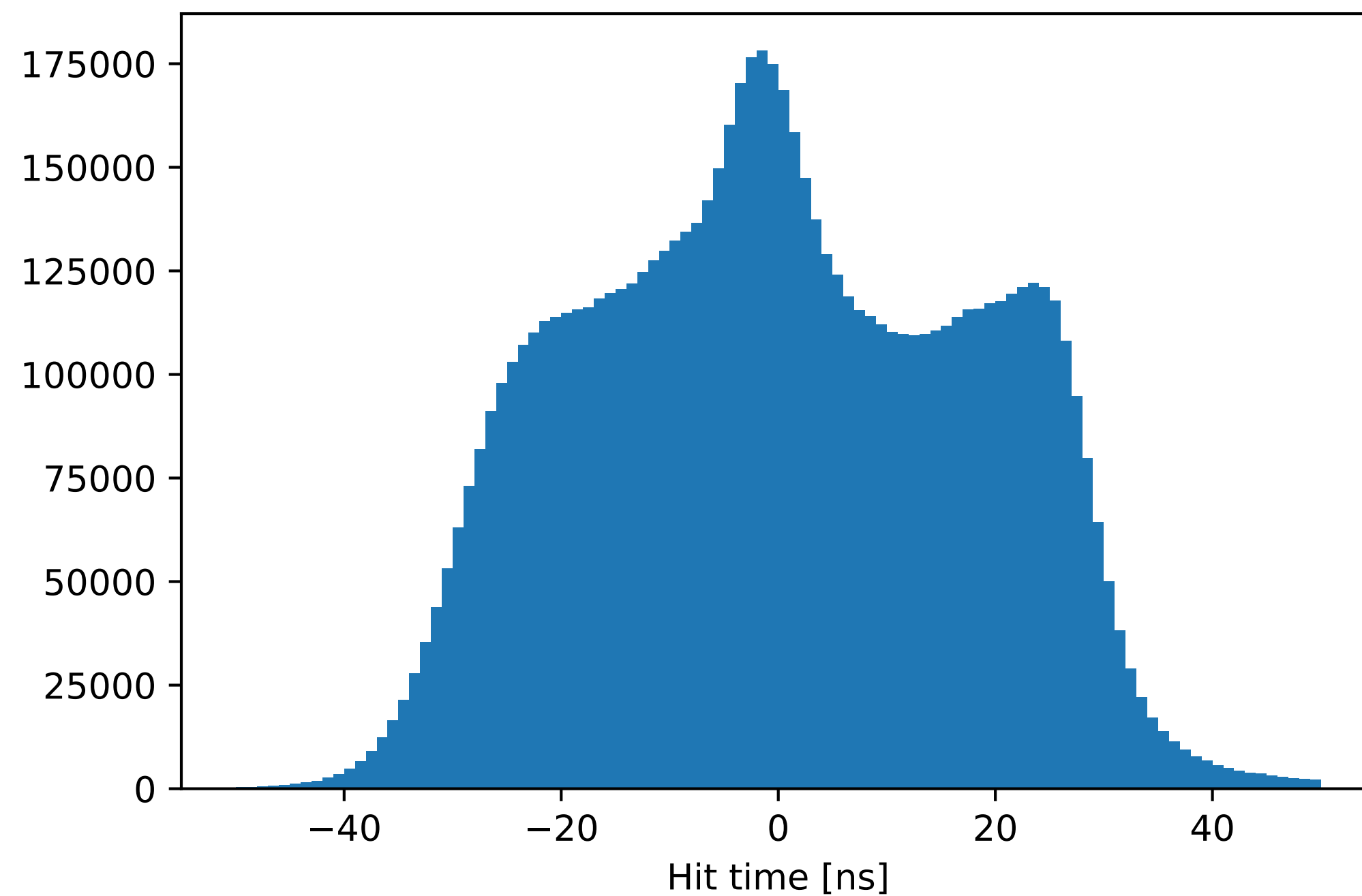
Occupancy Correction



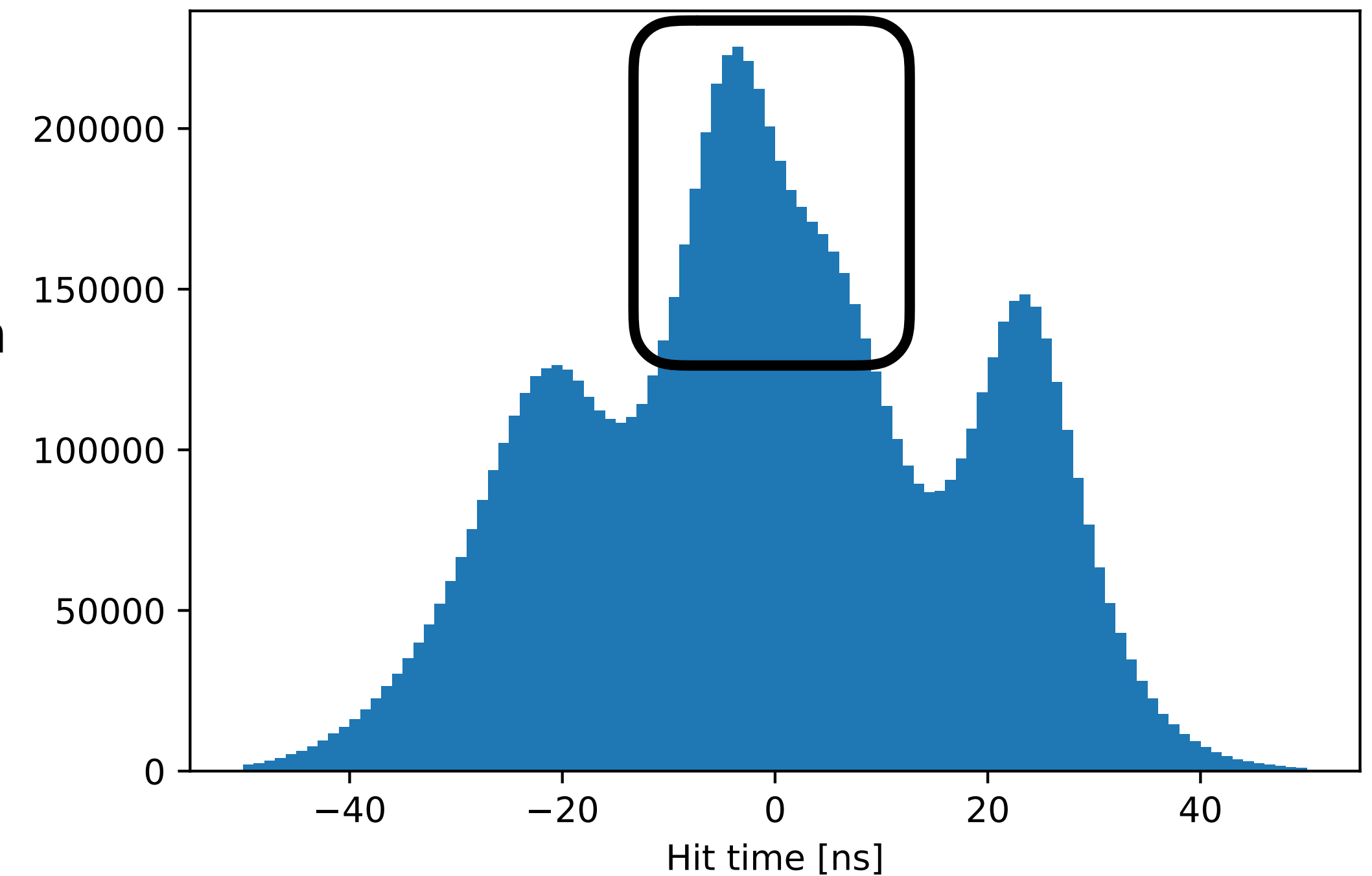
Reminder: Shift of hit time with rising chip occupancy

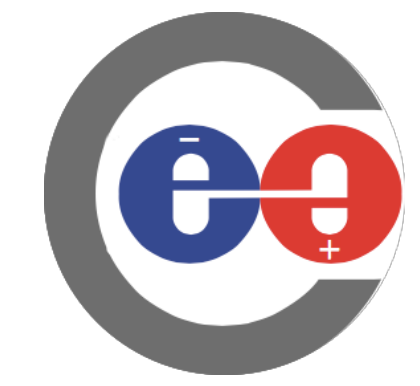
⇒ Implemented correction in Tokyo

- Seeing two main peaks (after old occupancy correction)
- Not seen for muons
->suspicion: relic from occ correction



Old
Correction
→





Occupancy Correction

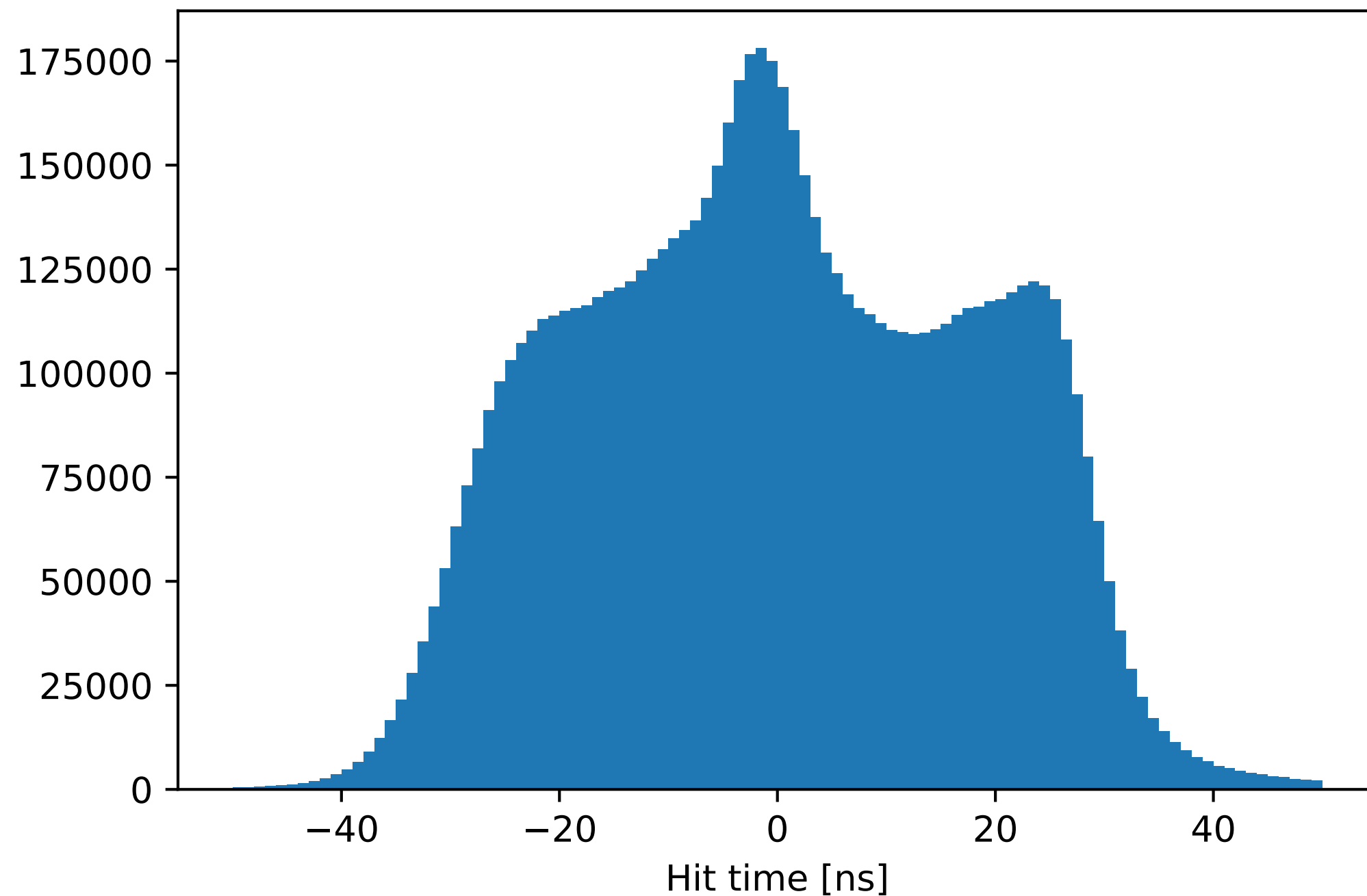


Reminder: Shift of hit time with rising chip occupancy

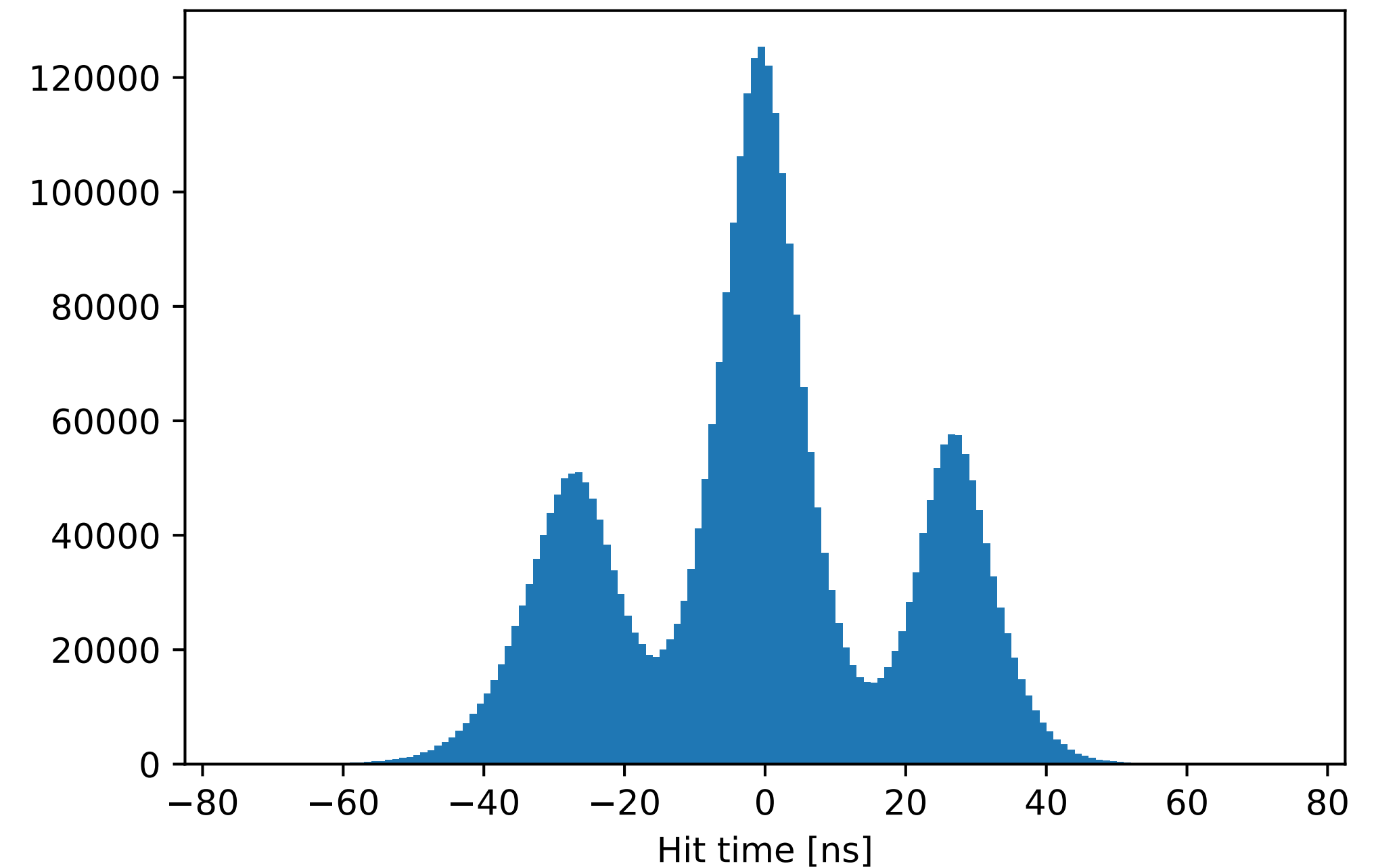
⇒ Implemented correction in Hamburg

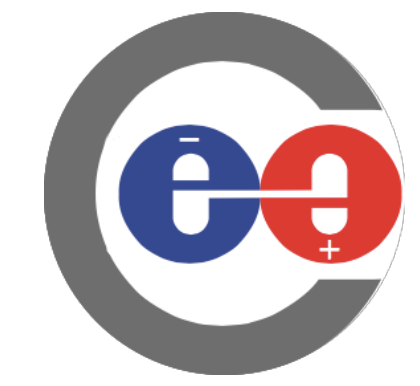
Done with ROCs ended by timeout

-> no influence of shifted events on the correction



Old
Correction
→



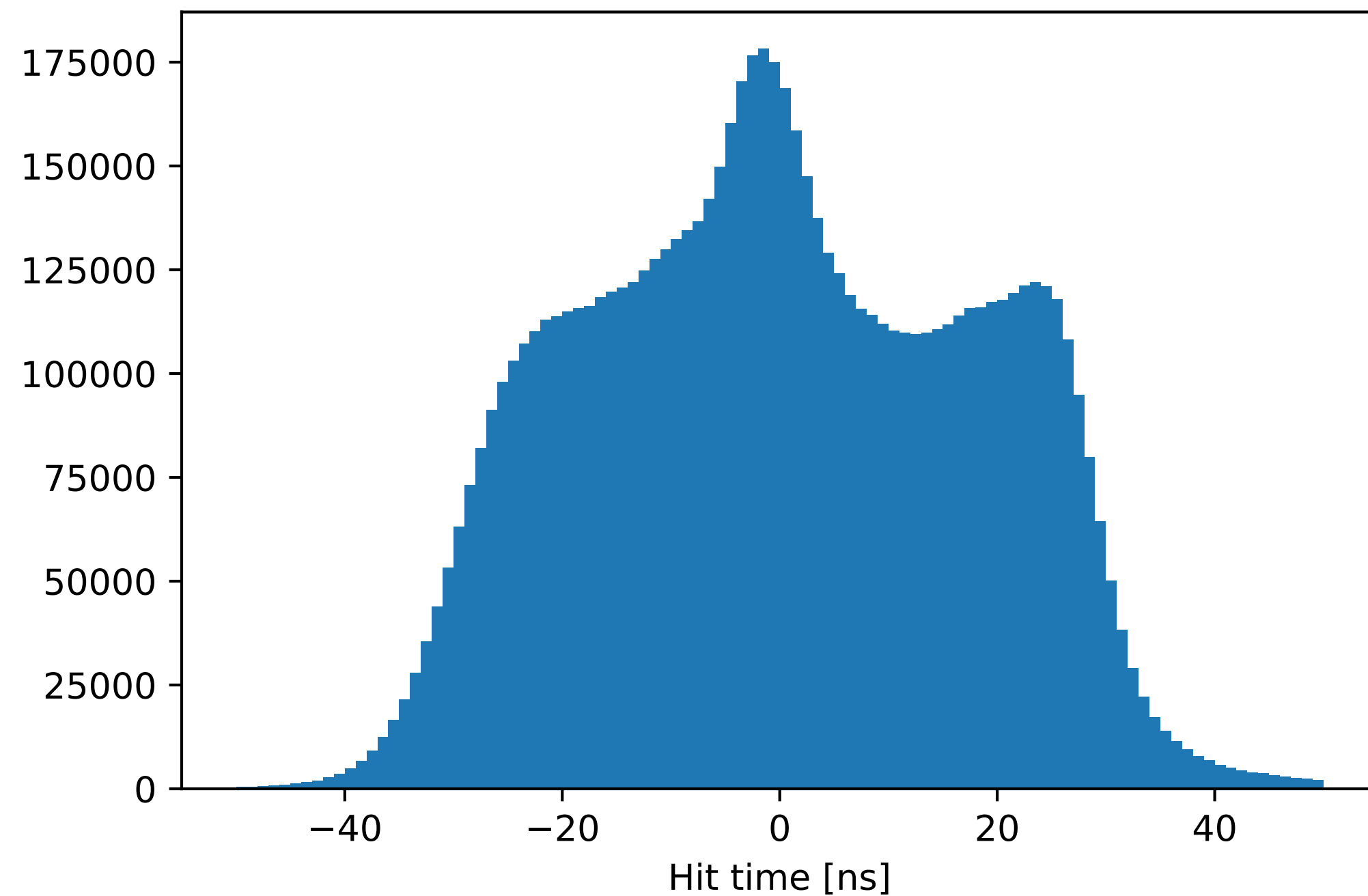


Occupancy Correction



Reminder: Shift of hit time with rising chip occupancy

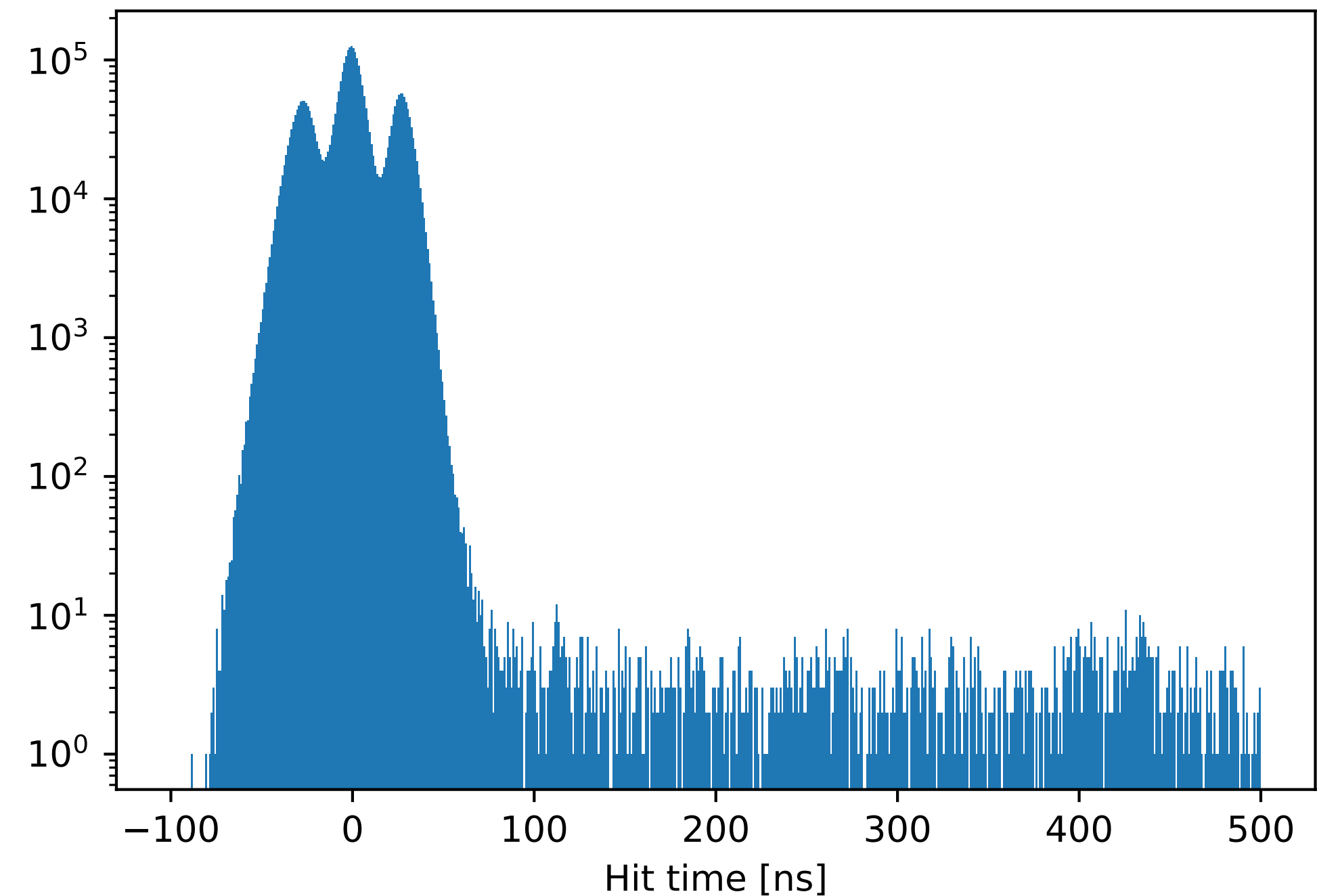
⇒ Implemented correction in Hamburg

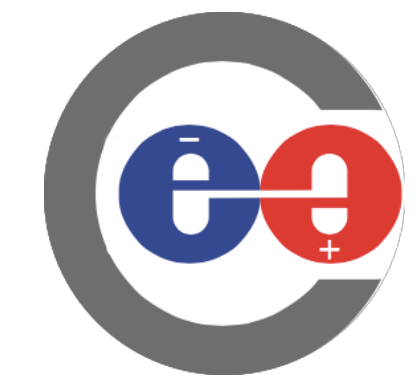


**New
Correction**
→
Log Scale

Done with ROCs ended by timeout

-> no influence of shifted events on the correction

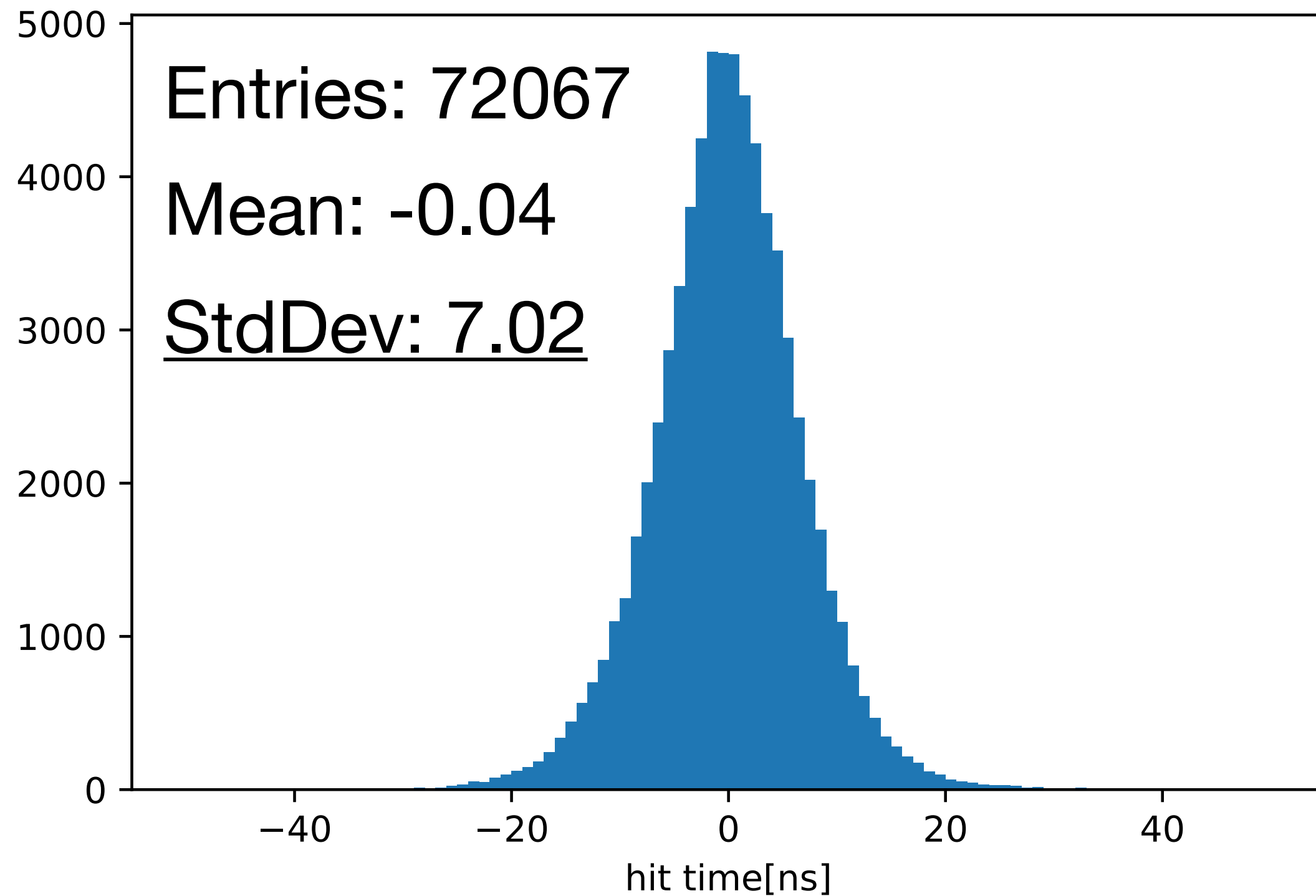




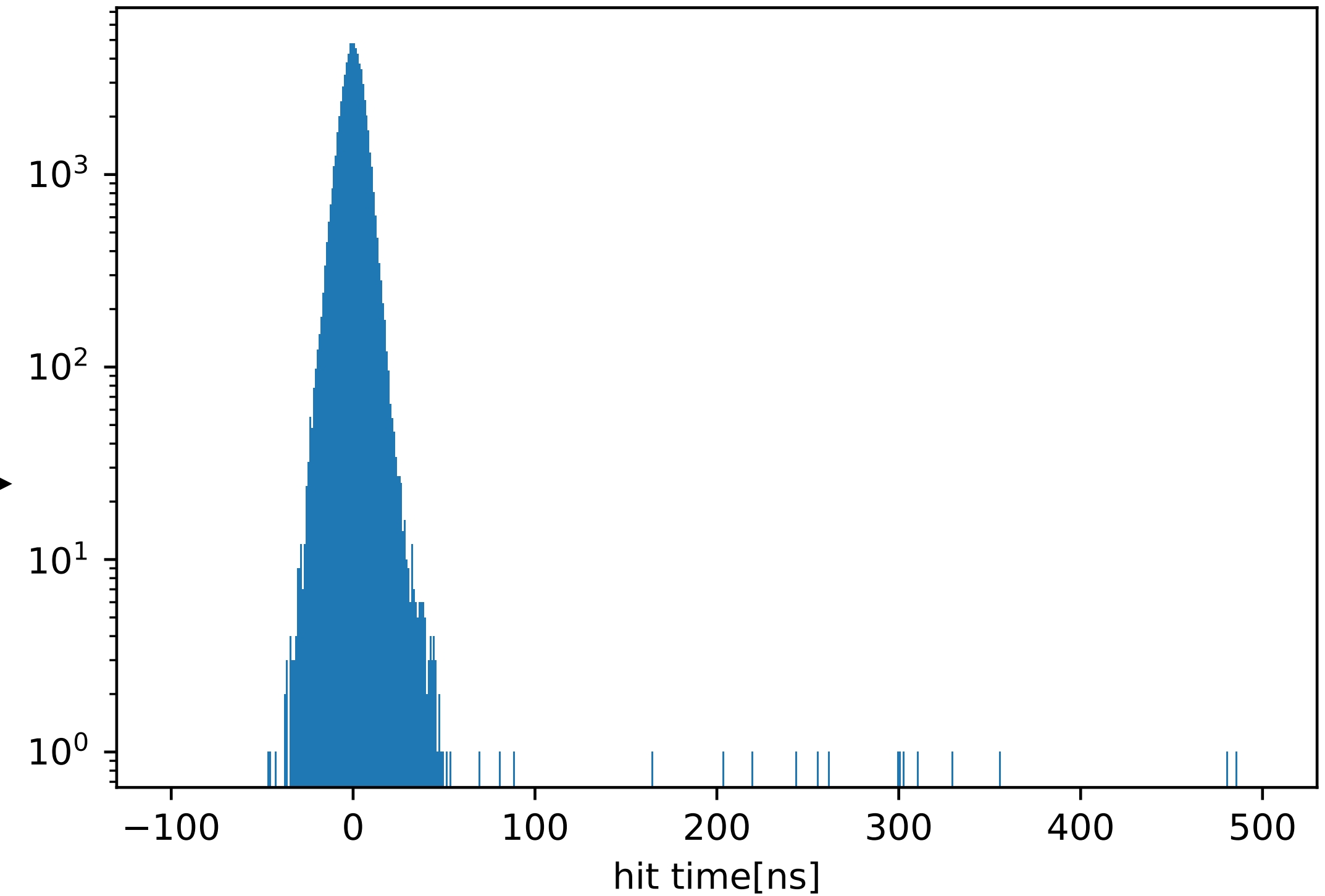
ROCs Ended by Timeout

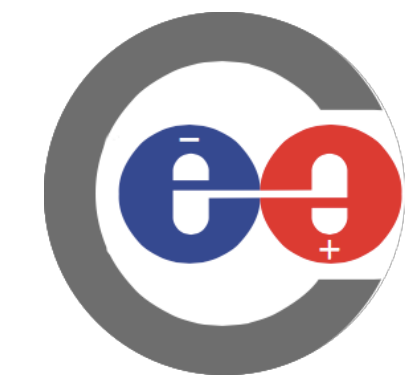


Only ~2% of events



Log Scale
→

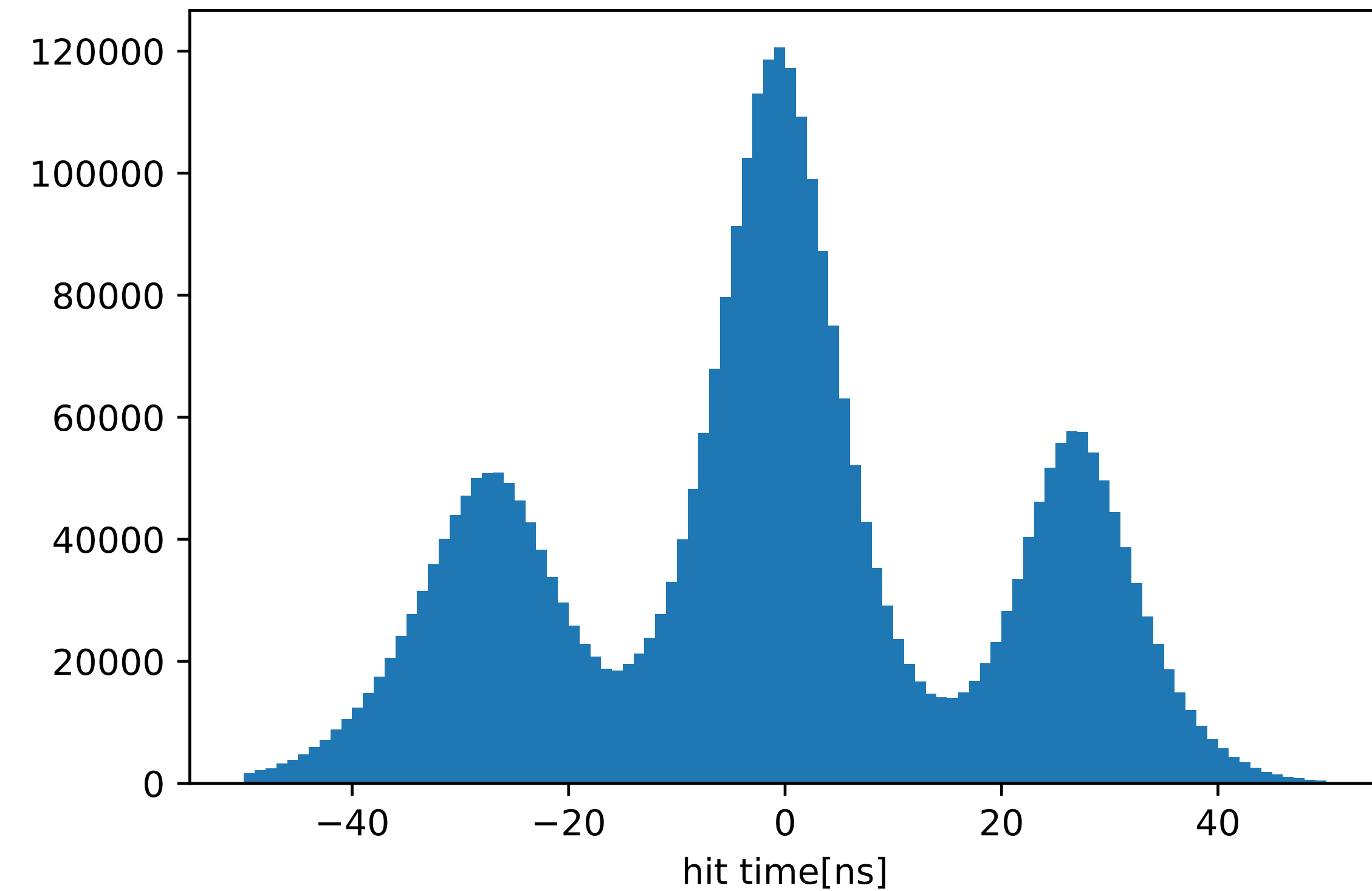




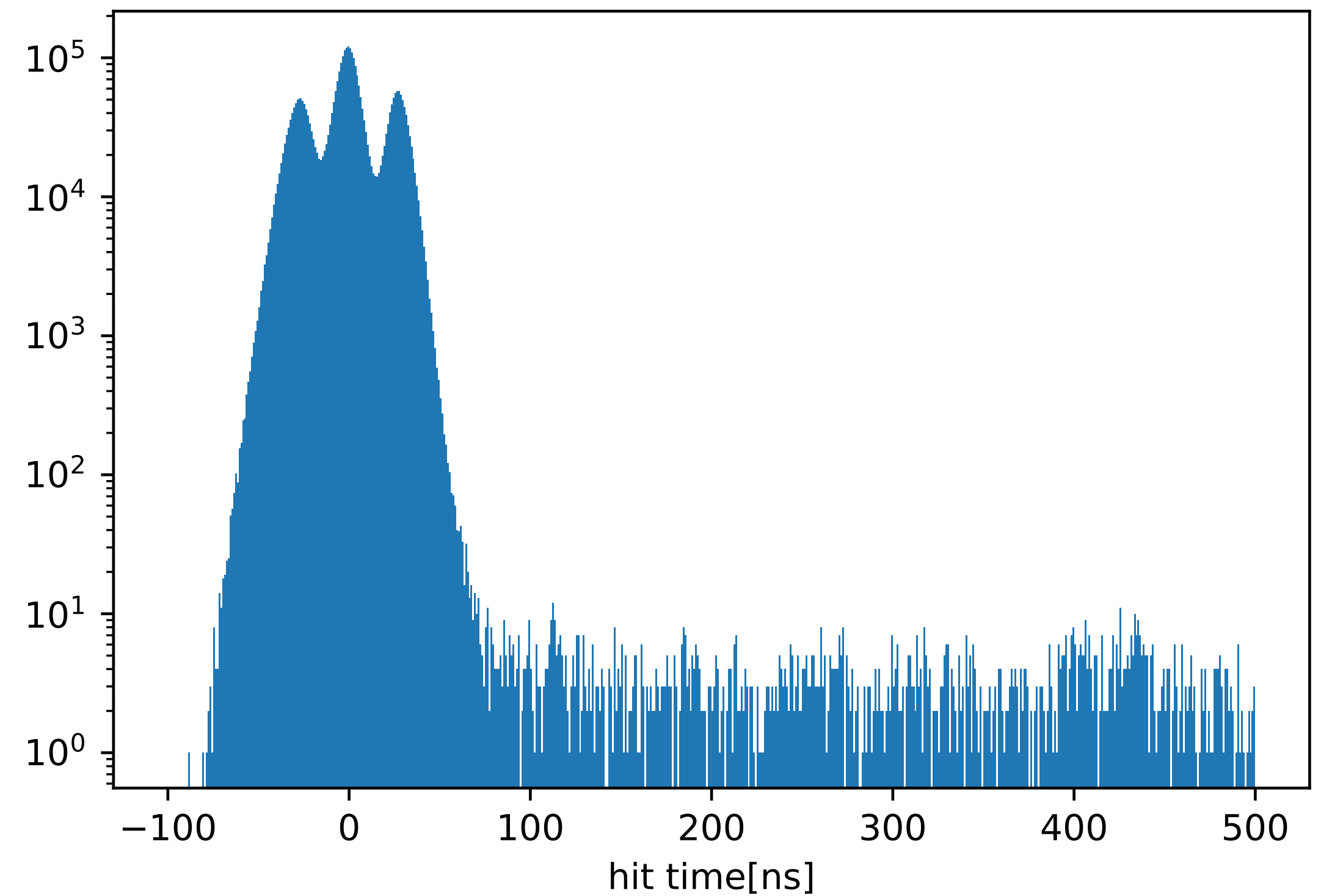
ROCs Ended by Full Memory Cell

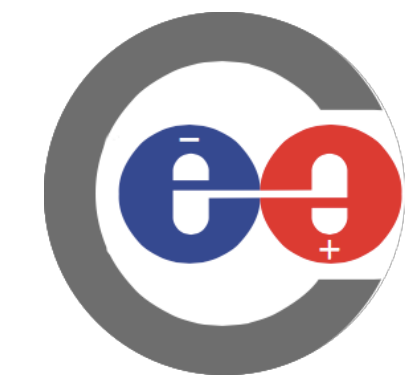


~98% of events



Log
Scale
→

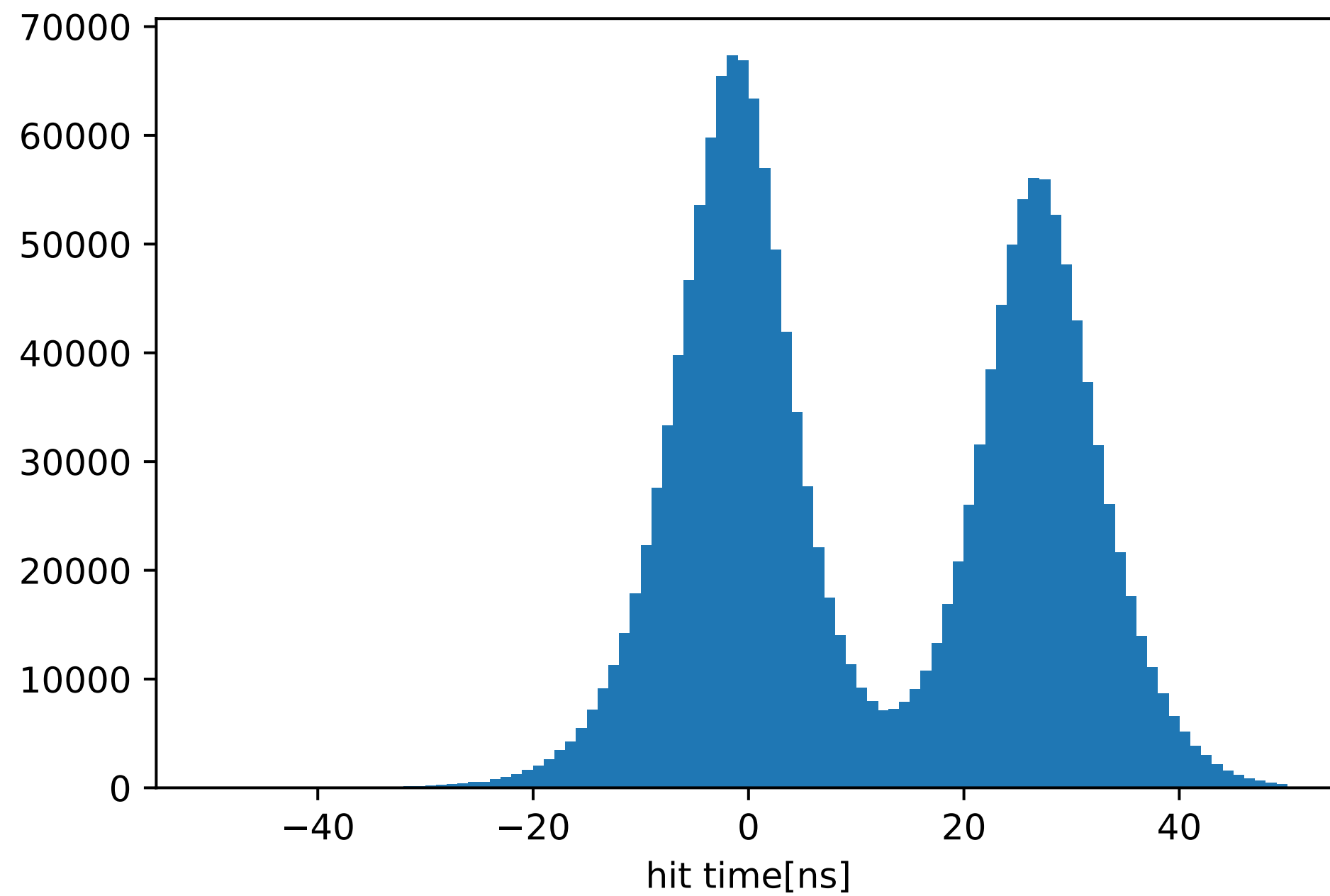




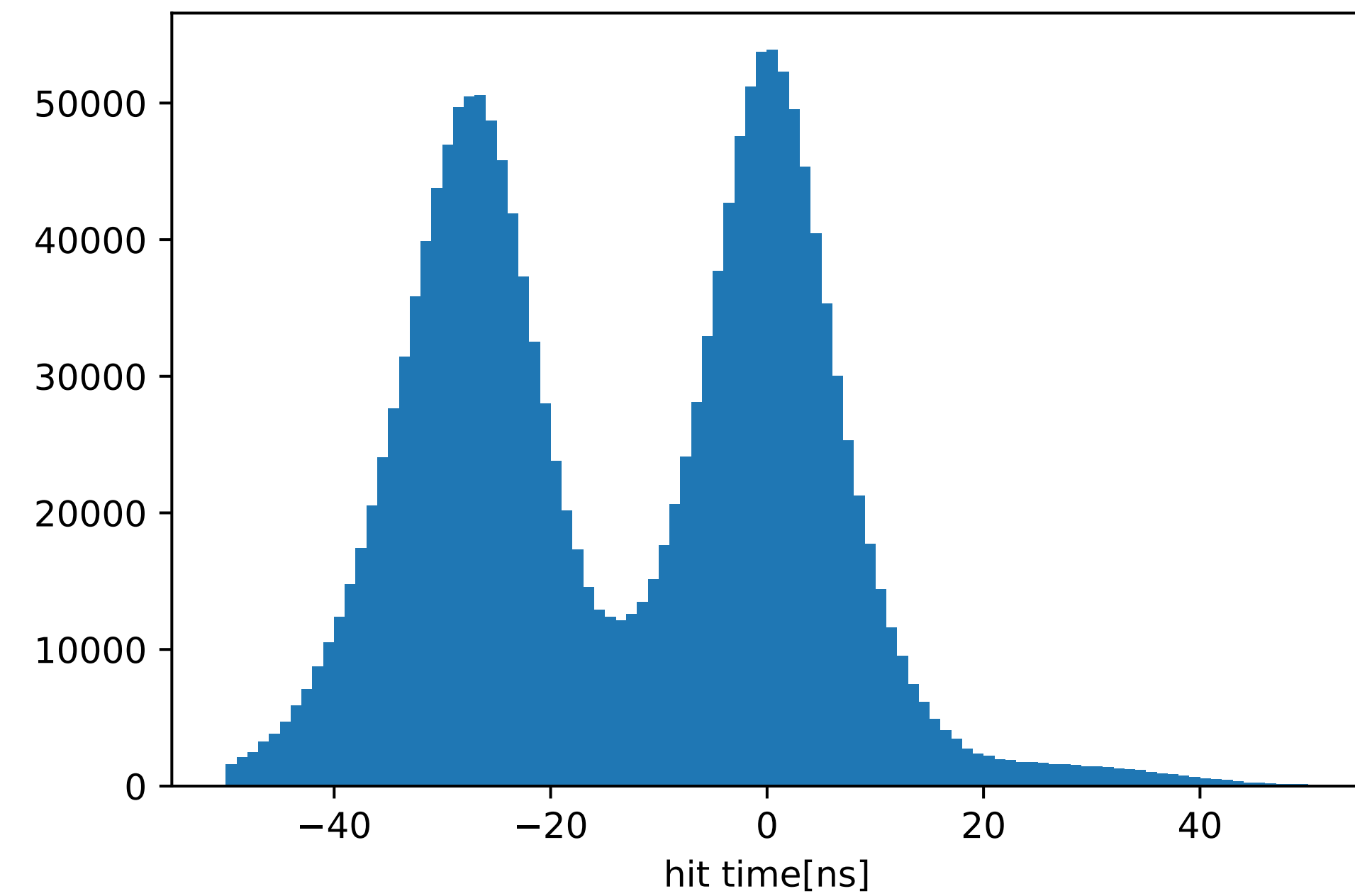
ROCs Ended by Full Memory Cell

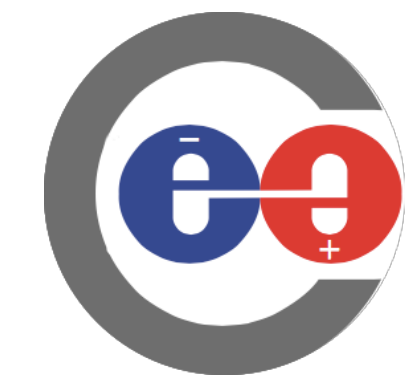


Even bxID
~49% of events



Odd bxID
~49% of events

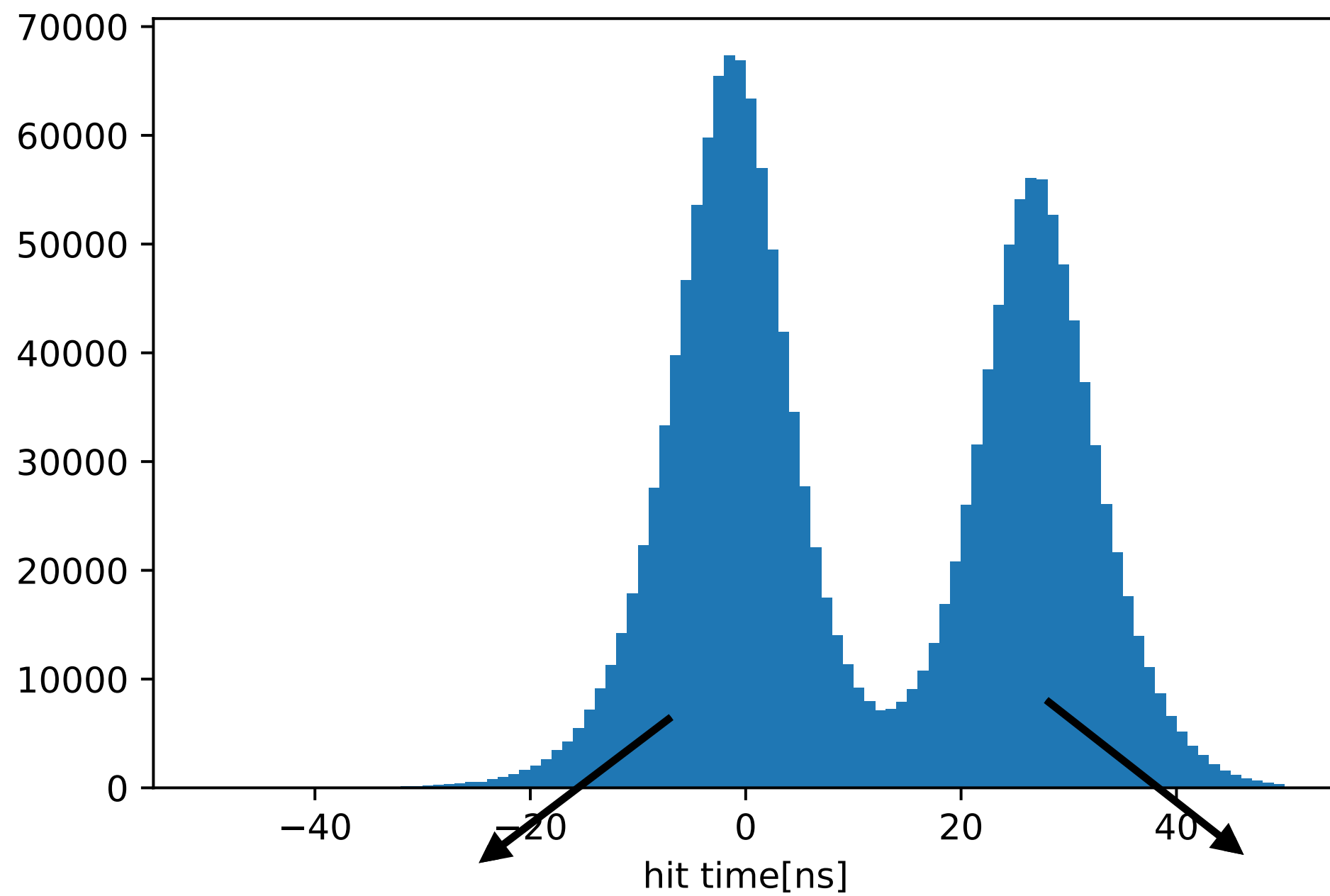




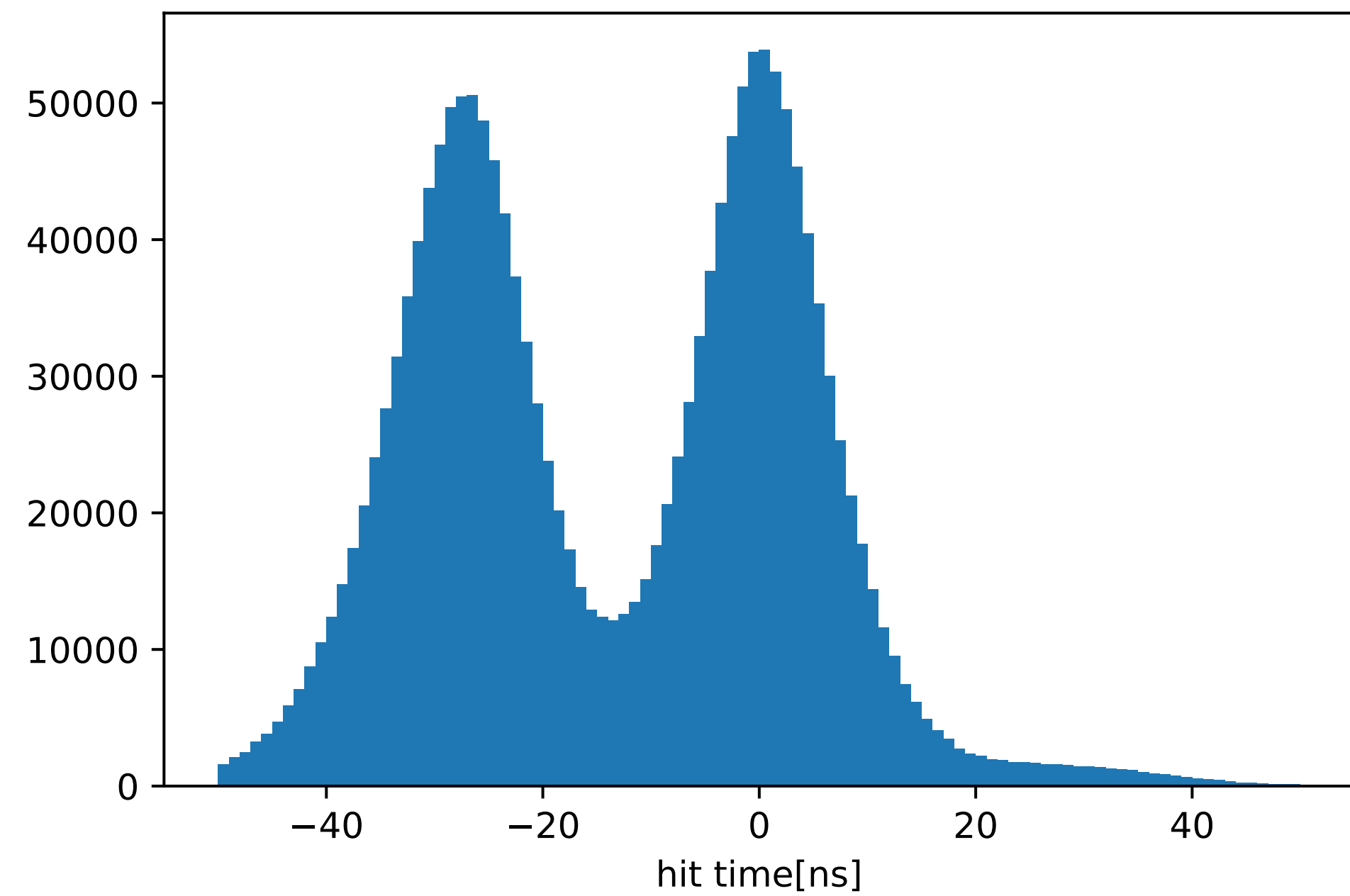
ROCs Ended by Full Memory Cell



Even bxID
~49% of events



Odd bxID
~49% of events



Entries: 928003

Mean: -1.6

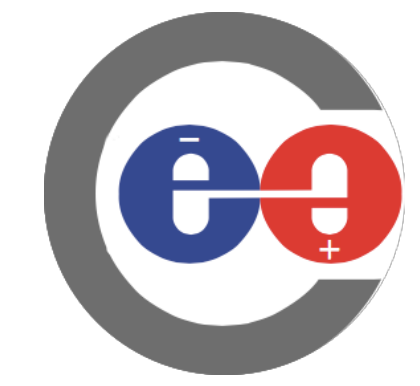
StdDev: 7.10

Clearly separable
by mean hit time

Entries: 785488

Mean: 26.92

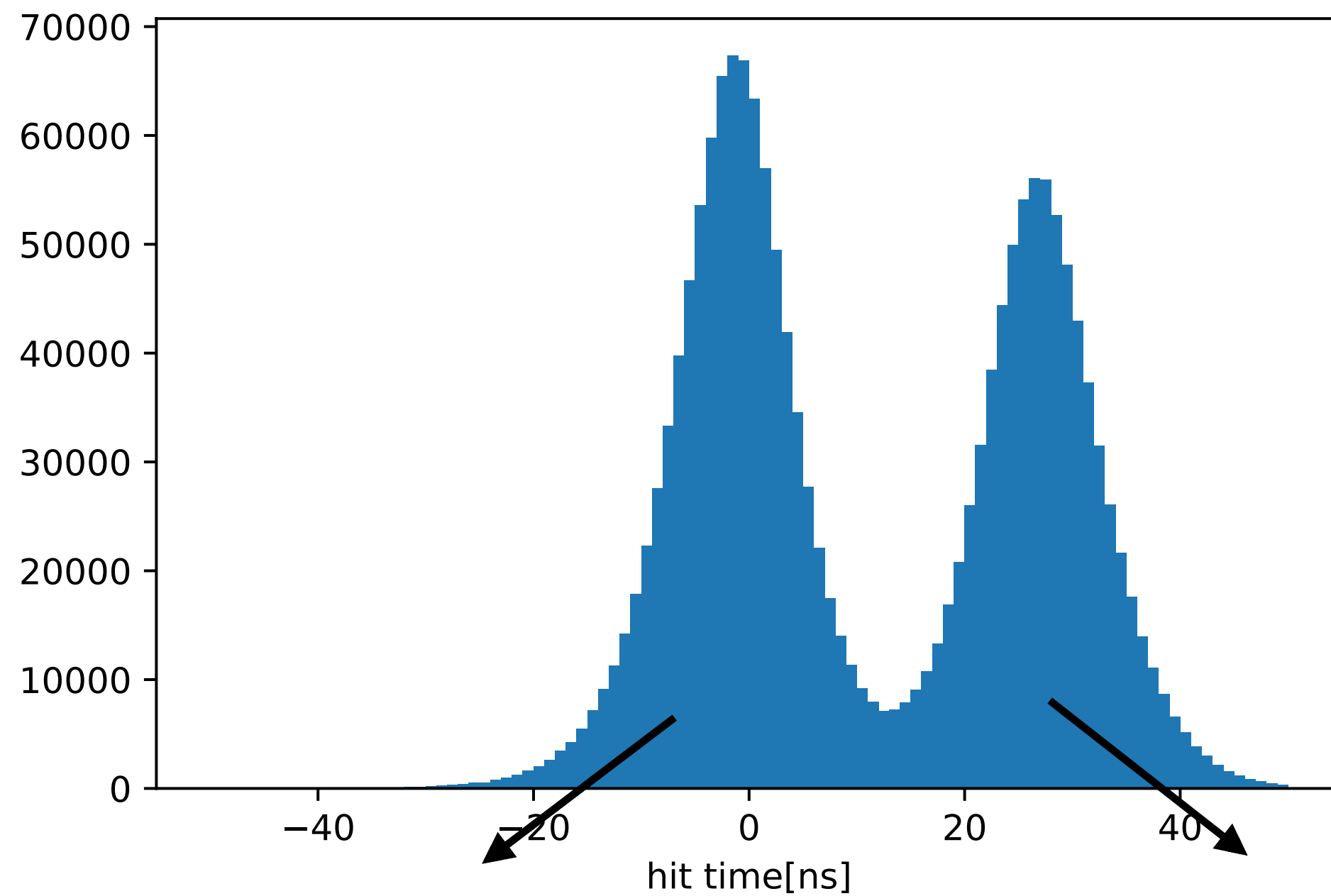
StdDev: 7.05



ROCs Ended by Full Memory Cell



Even bxID
~49% of events



Entries: 928003

Mean: -1.6

StdDev: 7.10

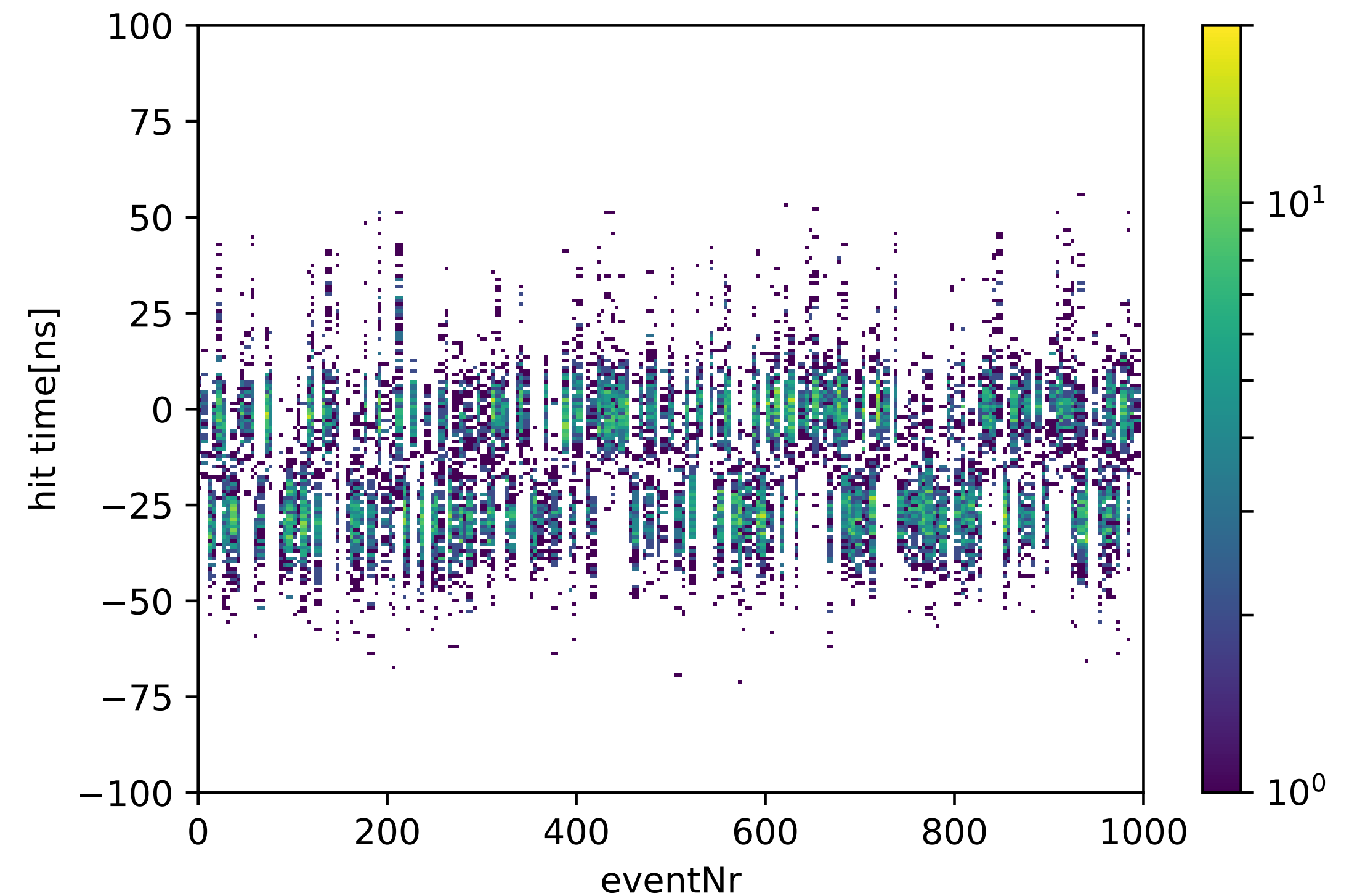
Clearly separable
by mean hit time

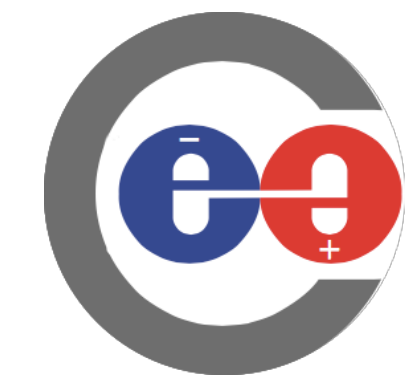
Entries: 785488

Mean: 26.92

StdDev: 7.05

Odd bxID
~49% of events

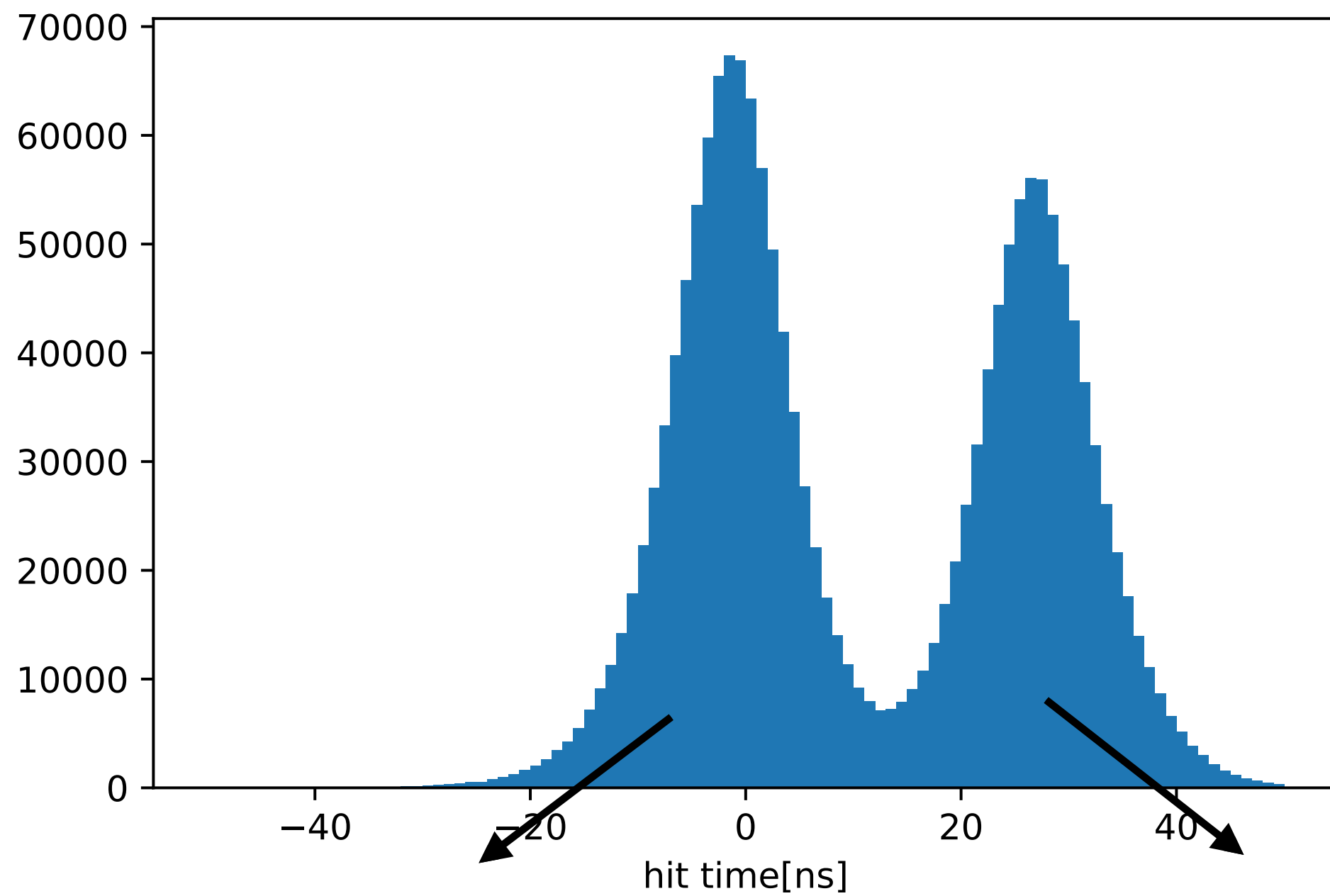




ROCs Ended by Full Memory Cell



Even bxID
~49% of events



Entries: 928003

Mean: -1.6

StdDev: 7.10

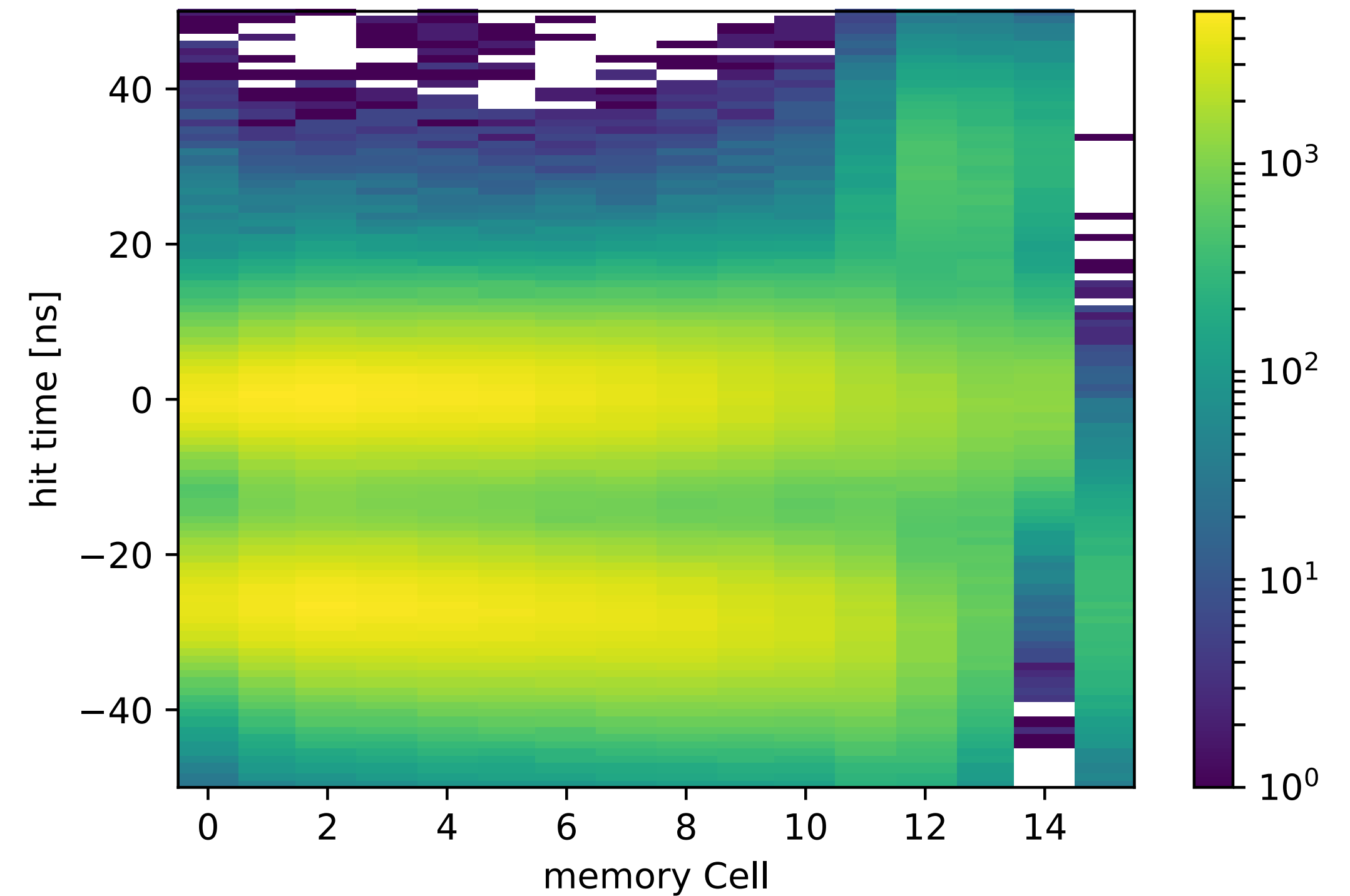
Clearly separable
by mean hit time

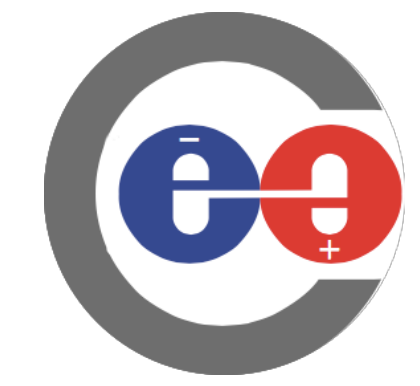
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Odd bxID
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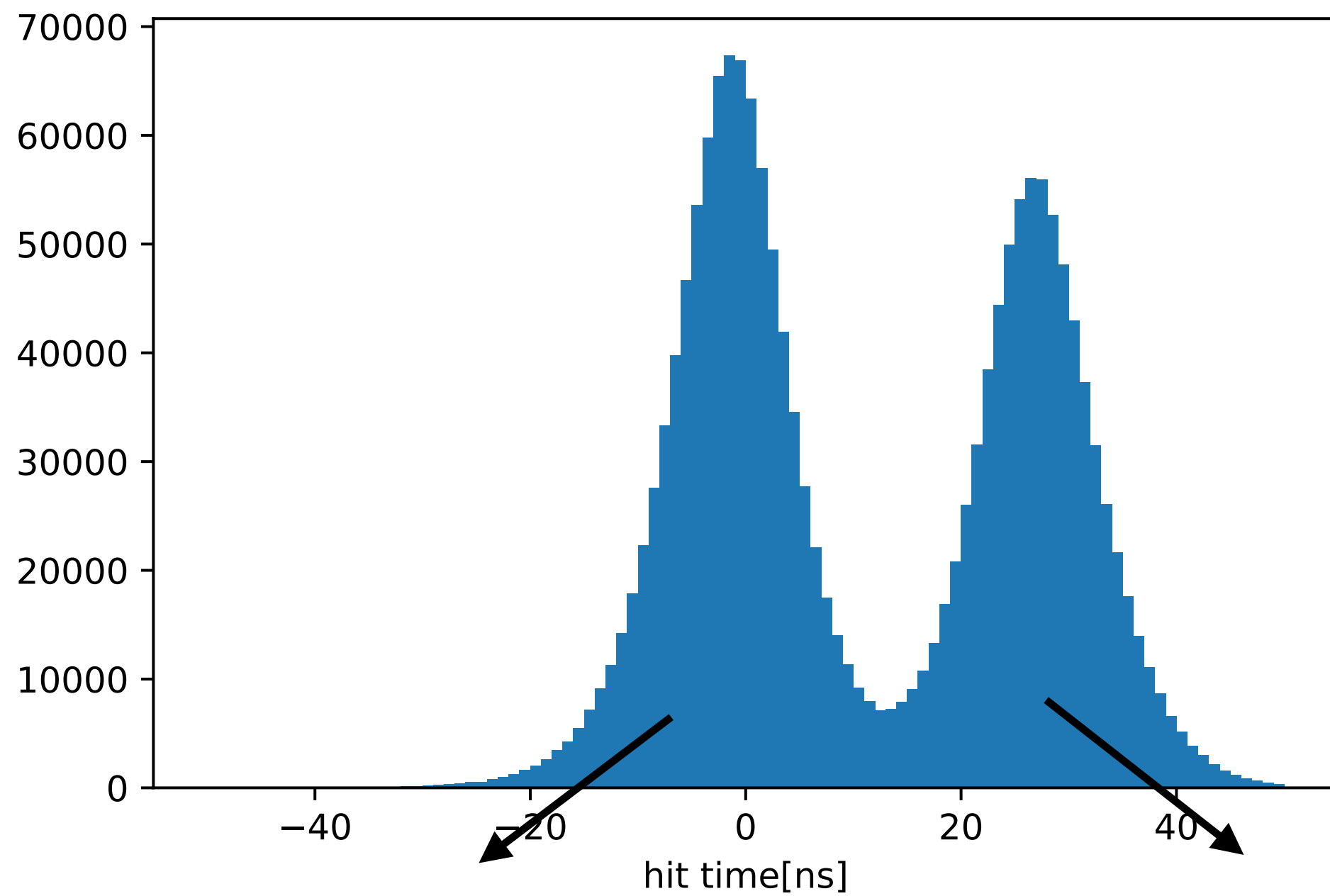




ROCs Ended by Full Memory Cell



Even bxID
~49% of events



Entries: 928003

Mean: -1.6

StdDev: 7.10

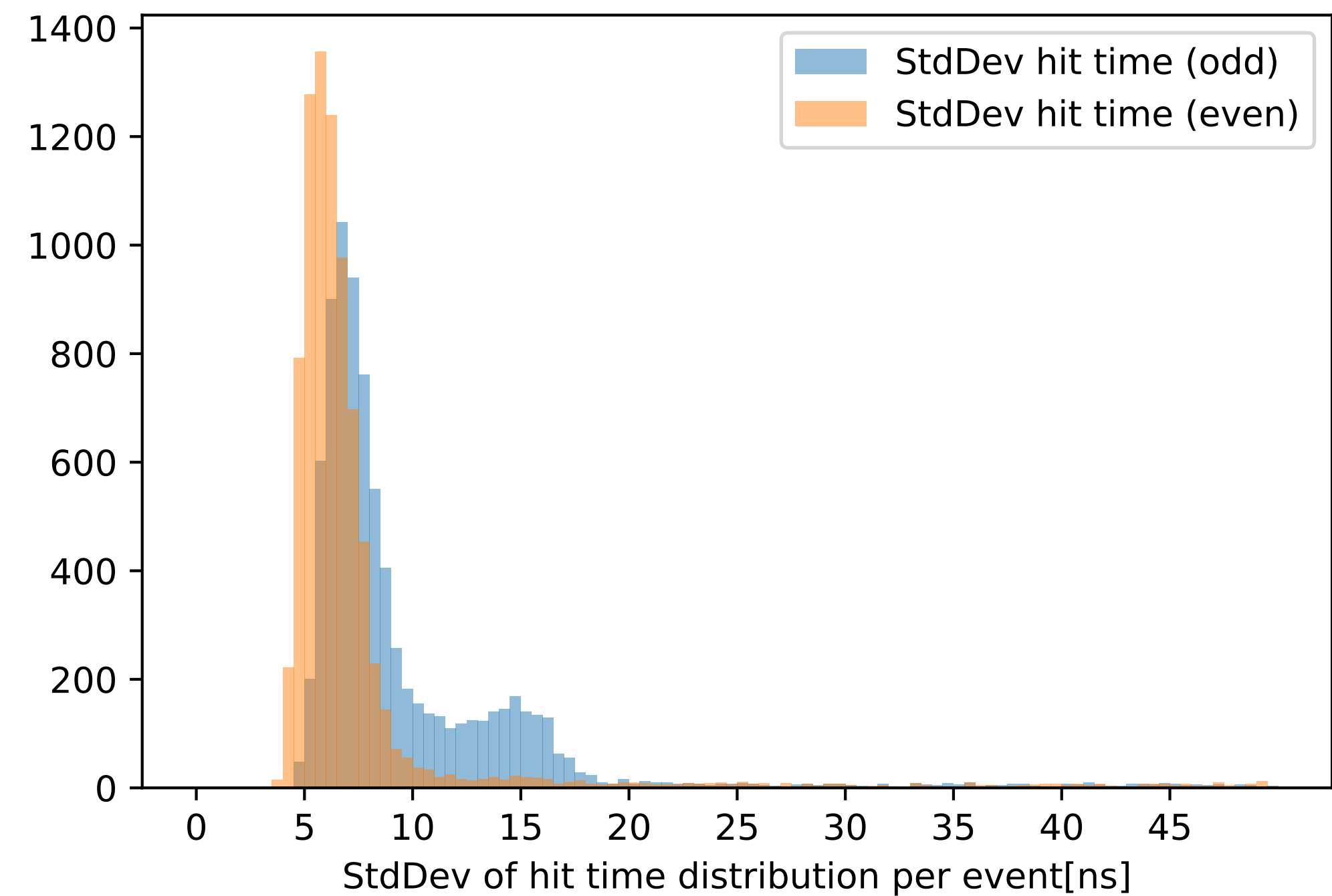
Clearly separable
by mean hit time

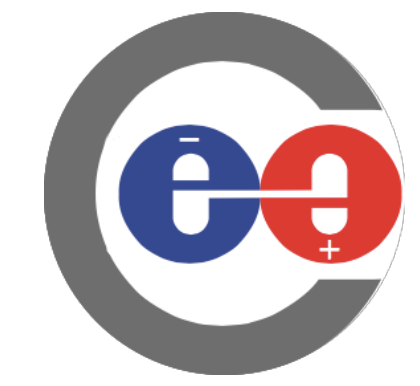
Entries: 785488

Mean: 26.92

StdDev: 7.05

Odd and even bxID





Next Steps



1. Continue work on EUDAQ, to gather more information on state of the detector, layers and chips at the end of a ROC \implies come back to DESY in January
In case of success: redo time calibration with corrected muon scan
2. Finish electron categorisation (use June runs with less background)
3. Start pion analysis