Pixel DB Updates

Tamás Álmos VÁMI[1]

[1] Wigner RCP, Budapest

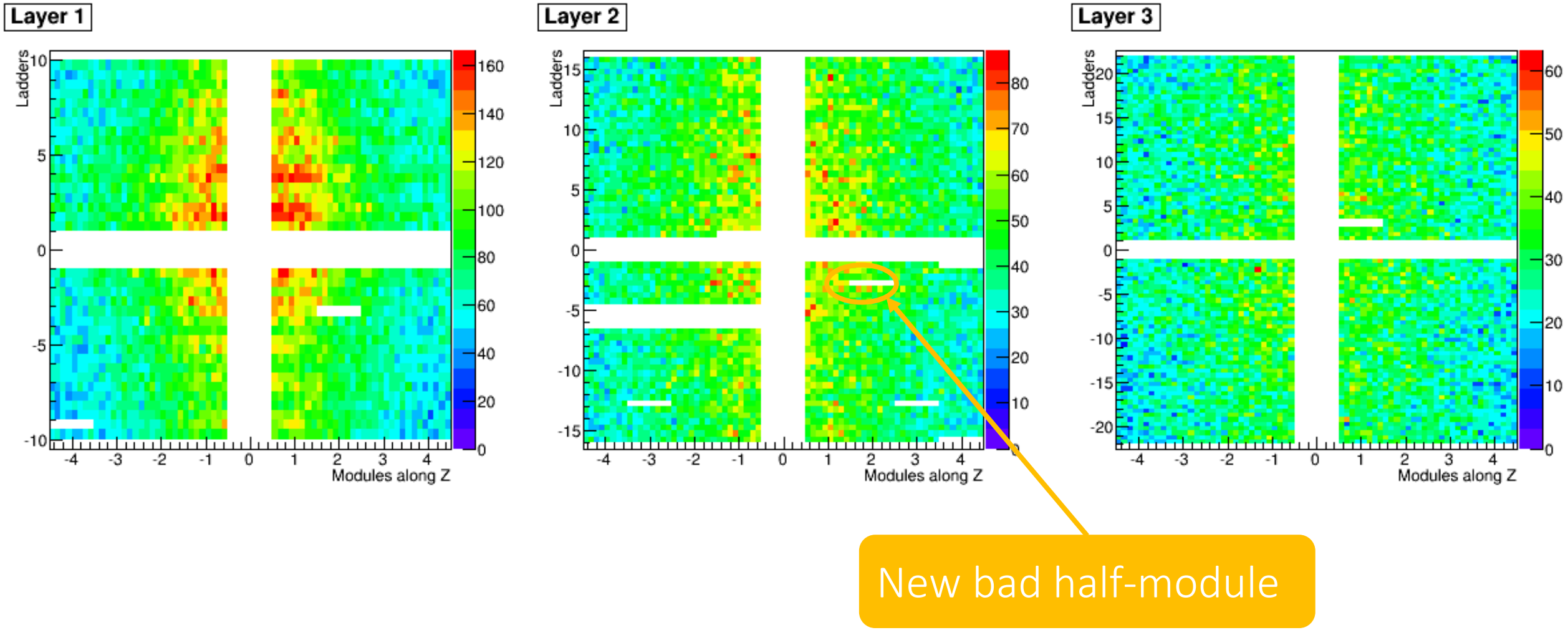
SiPixelQuality

SiPixelQuality_v35

BPix_BpO_SEC2_LYR2_LDR3F_MOD2 ROC 0-7 part was disabled
http://cmsonline.cern.ch/cms-elog/931927

New bad module payload was created
Internal validation was done using occupancy plots

SiPixelQuality_v35



SiPixelQuality_v35

Green light from the AlCaDB was asked and permission to upload was granted

New IOV in *SiPixelQuality_v03_dup_hlt* from
Runs 276460 – 276870
Added on 2016-07-07

New IOV in *SiPixelQuality_v04_offline* from
Runs 276460 – 276939

SiPixelQuality_v36

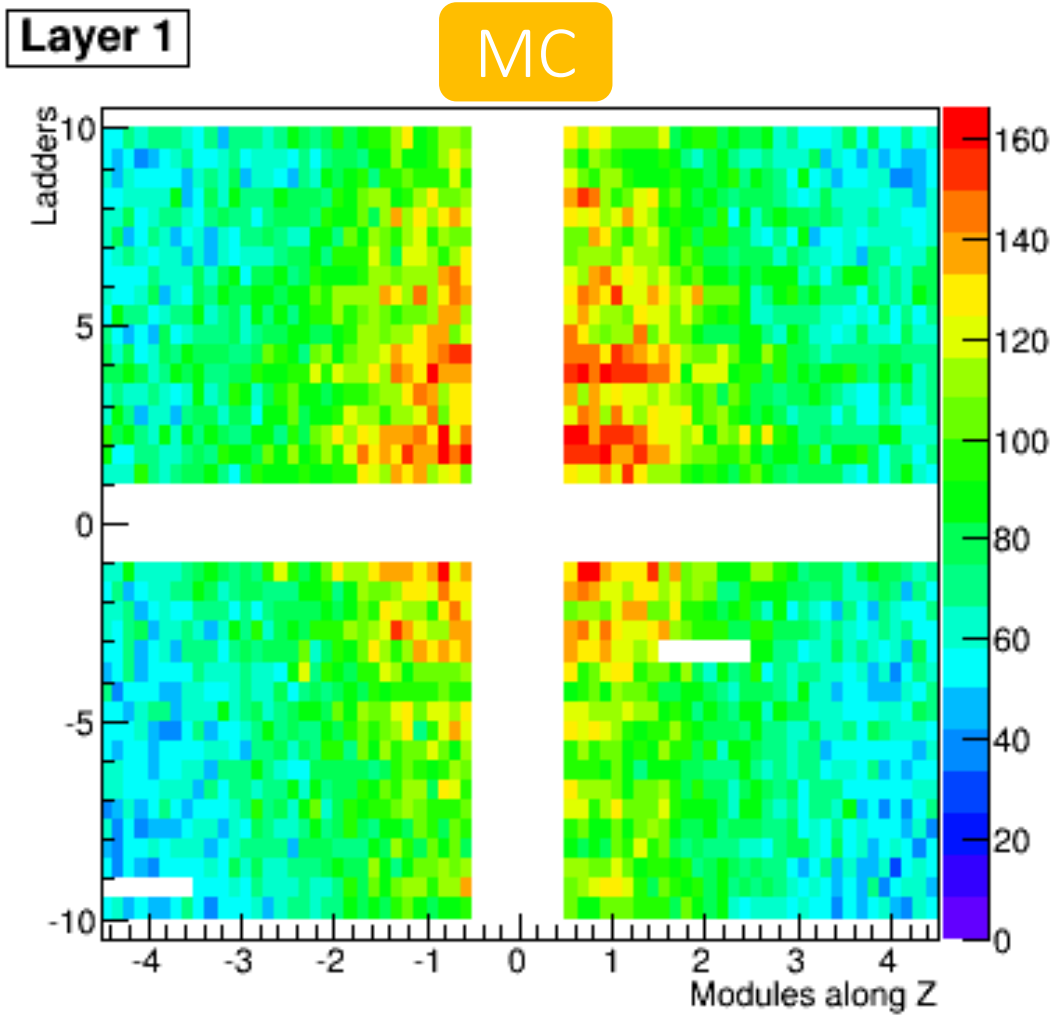
No comparison with data resulted a mistake // ROC 0-7 is not TBM-B

v36 is the same as v35 just with the correct half module

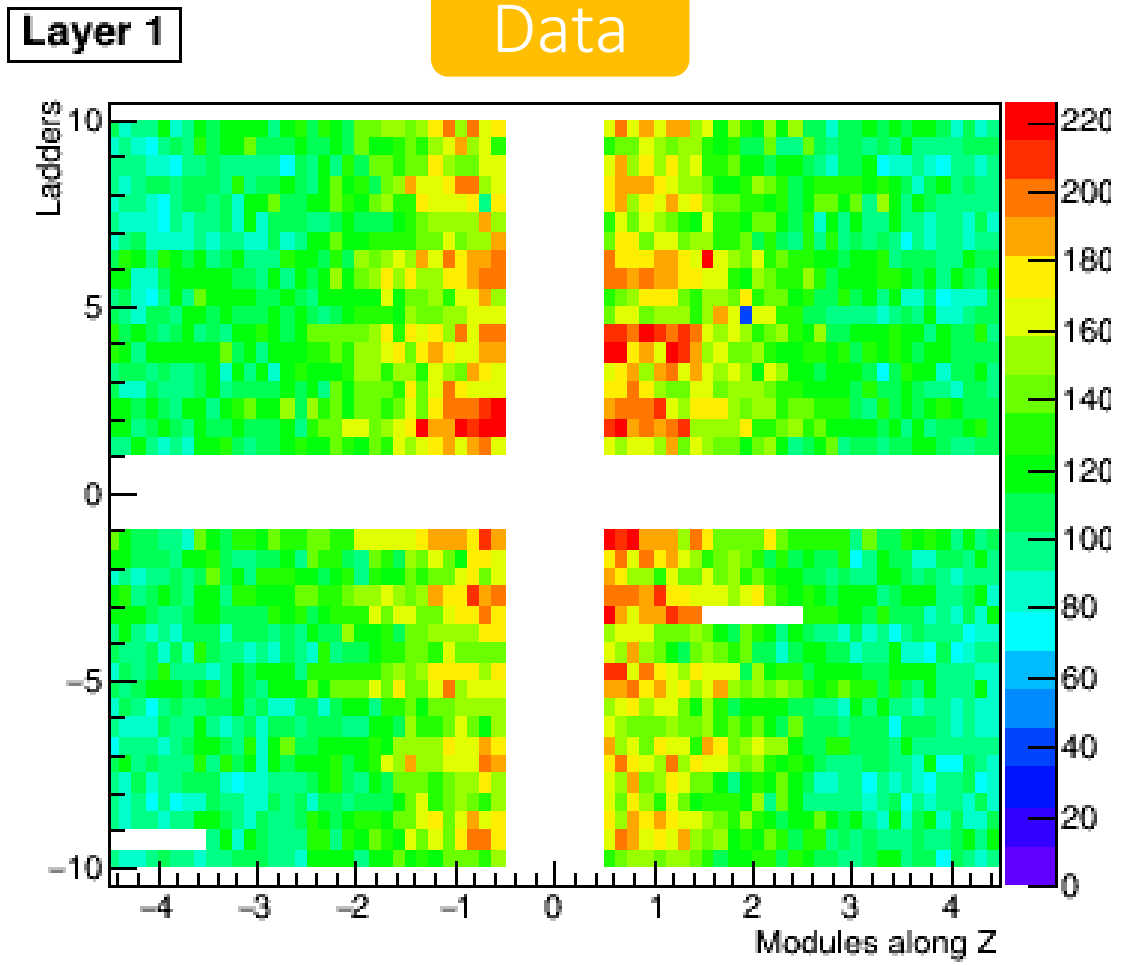
New bad module payload was created
Internal validation using occupancy plots from data

SiPixelQuality_v36

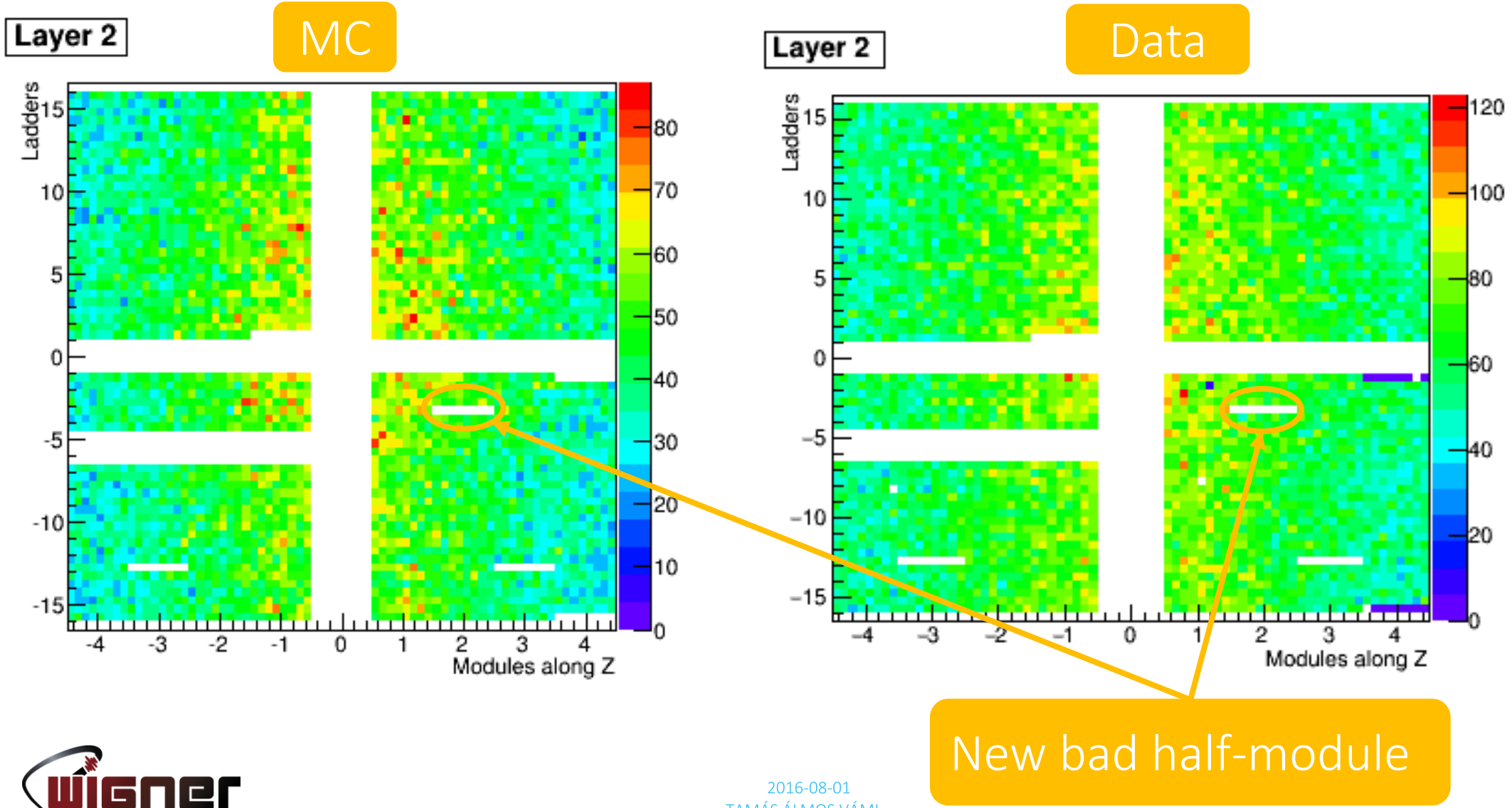
MC



Data

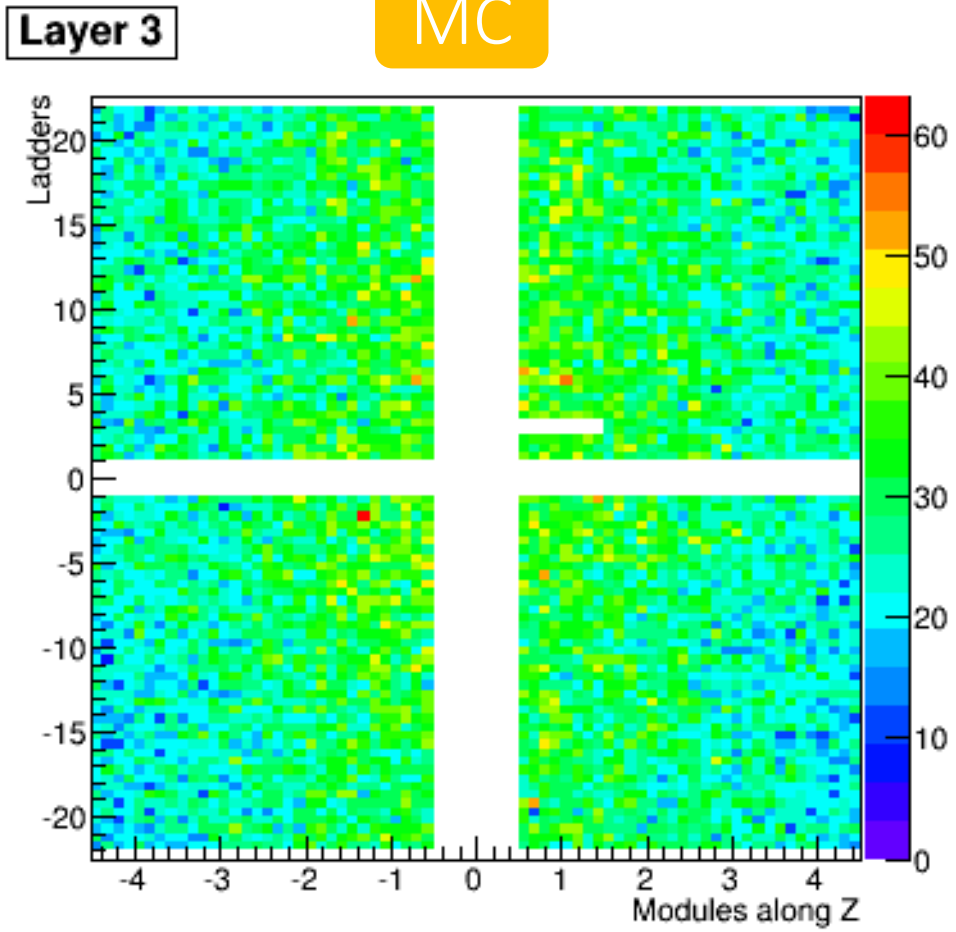


SiPixelQuality_v36

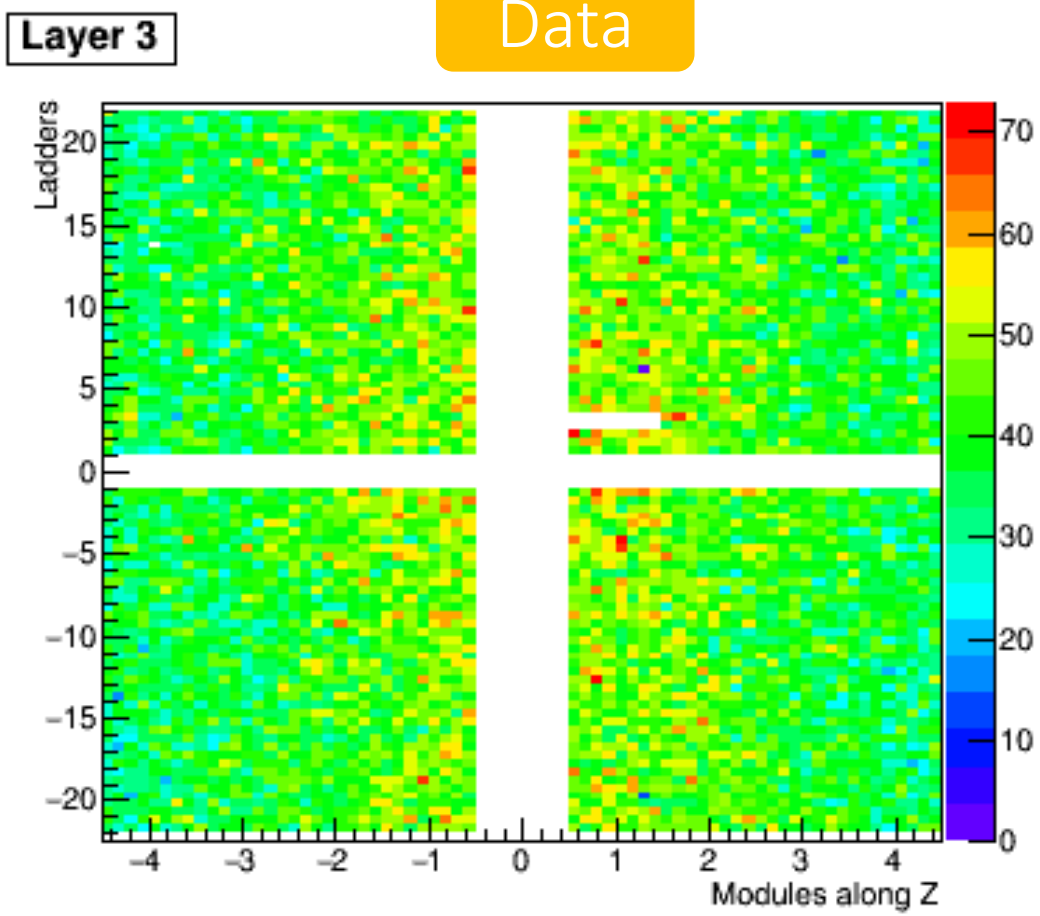


SiPixelQuality_v36

MC



Data



SiPixelQuality_v36

Green light from the AlCaDB was asked and permission to upload was granted

New IOV in *SiPixelQuality_v03_dup_hlt* from
Runs 276871 - infinity
Added on 2016-07-16

New IOV in *SiPixelQuality_v04_offline* from
Runs 276461 - 276939

SiPixelQuality_v37

FED 39 channel 23 (corresponding to FPix_BmO_D2_BLD10) was removed temporarily.

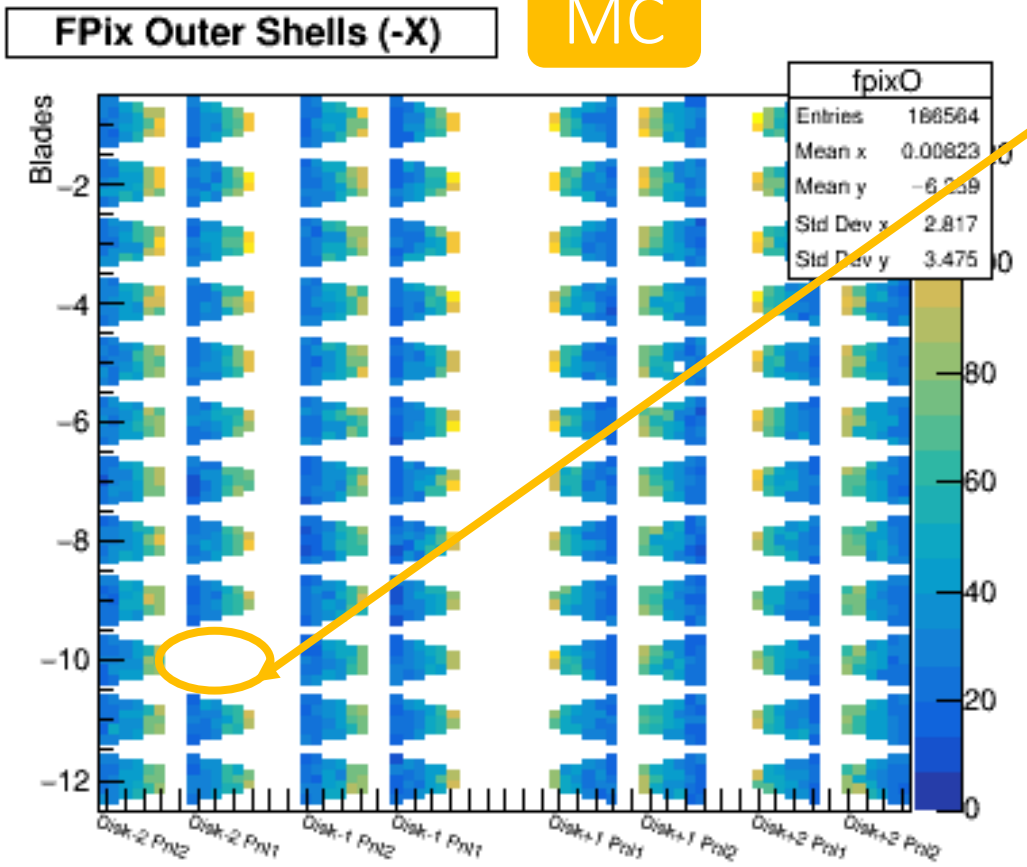
I was informed after this period thus the *_hlt* tag is not updated

New bad module payload was created
Internal validation was done using occupancy plots

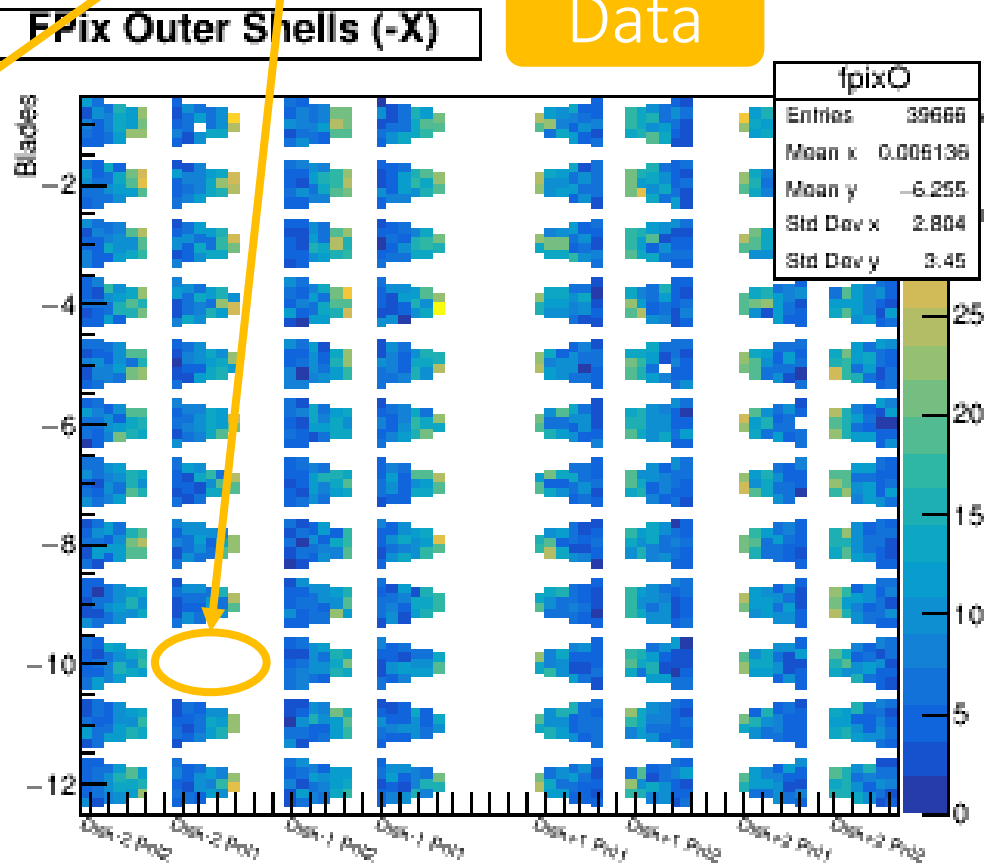
SiPixelQuality_v37

New bad module

MC



Data



SiPixelQuality_v37

No need for green light from the AlCaDB in case of the *_offline* tag

New IOV in *SiPixelQuality_v04_offline* from
Runs 276940 – 277126: contains SiPixelQuality_v37
Added on 2016-07-24

New IOV in *SiPixelQuality_v04_offline* from
Runs 277127 – infinity: contains SiPixelQuality_v36 again
Added on 2016-07-24

SiPixelQuality outlook

There were some questions raised during the v36 period that I wish to mention in the other PDF

SiPixelTemplate & SiPixelGenError

Template/GenErr Offline

271952 - infinity (up to Run2016B)
SiPixelTemplateDBObject_38T_2016_v1
Uploaded on 2016-06-30

271952 - inf (Run2016B)
SiPixelGenErrorDBObject_38T_2016_v1
Uploaded on 2016-06-30

Template/GenErr HLT

The HLT tags were updated centrally on 2016-07-03
From run number 276251

Tags:
#Template: *SiPixelTemplateDBObject38Tv2_hlt*
#GenErr: *SiPixelGenErrorDBObject_38T_v2_hlt*

Template/GenErr Express

The HLT tags were updated centrally on 2016-07-14
From run number 276812

Tags:
#Template: *SiPixelTemplateDBObject38Tv2_express*
#GenErr: *SiPixelGenErrorDBObject_38T_v2_express*

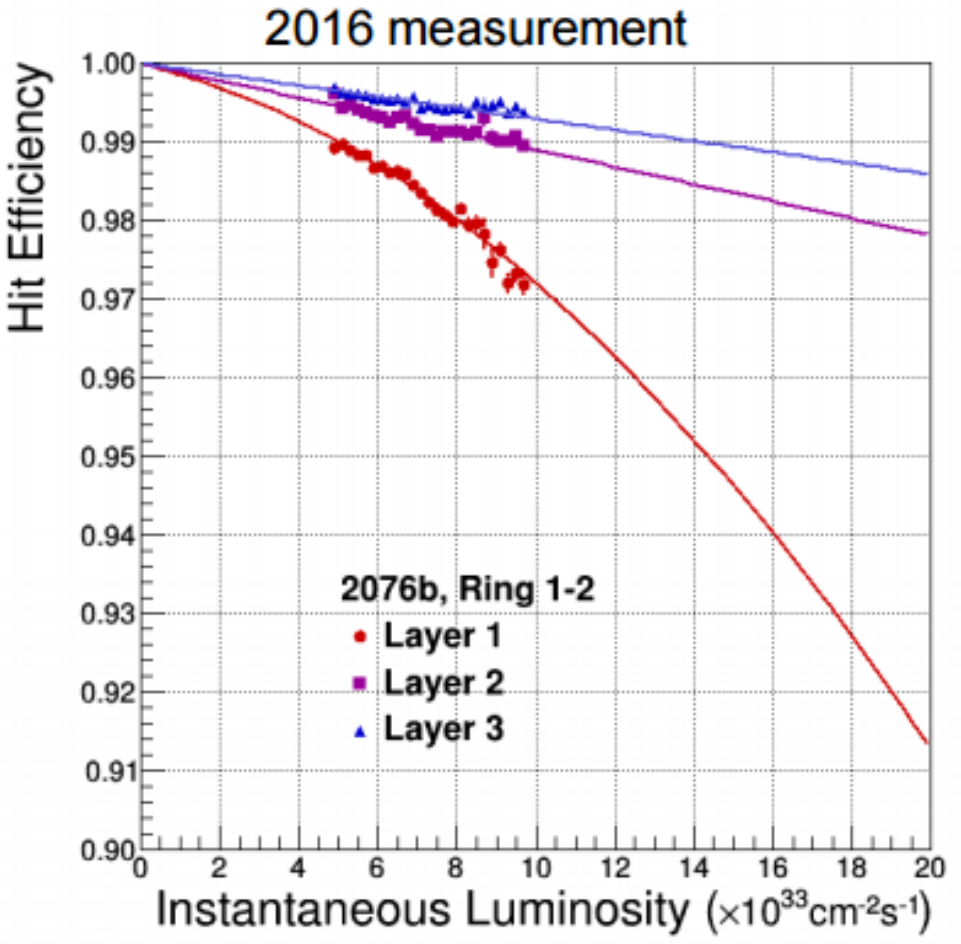
Dynamic Inefficiency

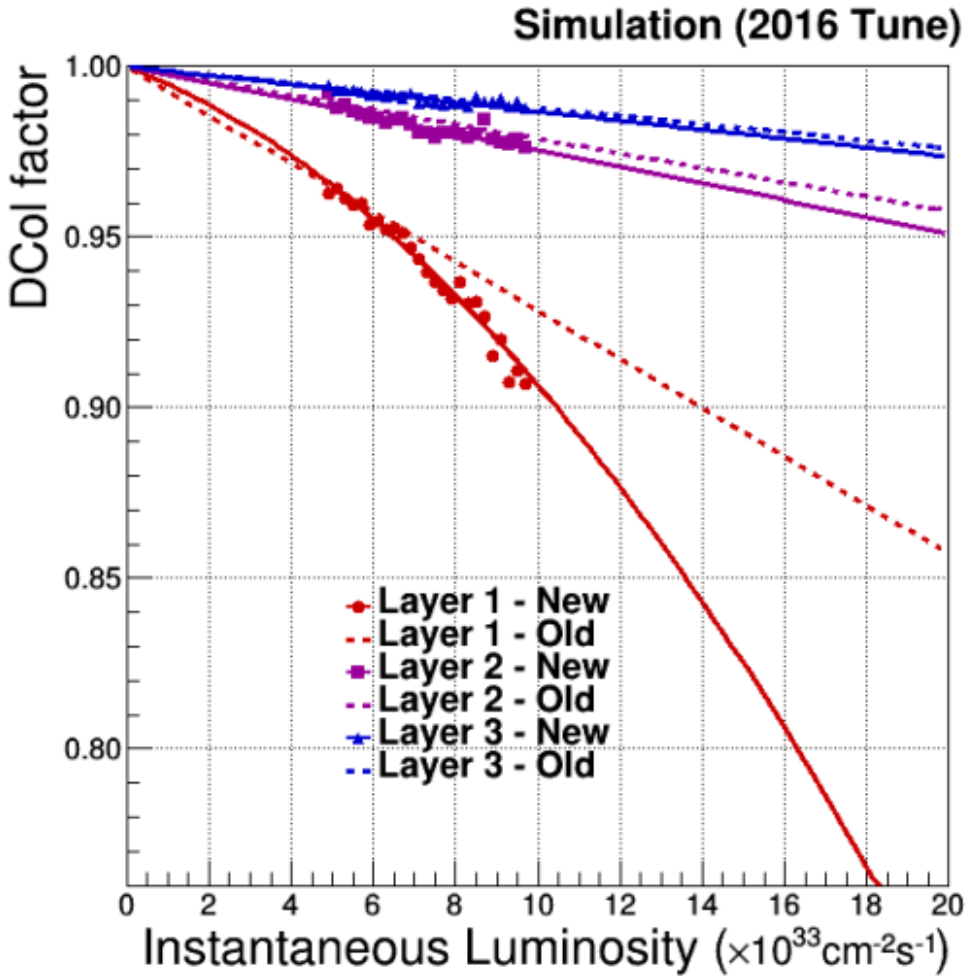
Dynamic Inefficiency

Presentation by Janos on the Tracker DPG Meeting
https://indico.cern.ch/event/536883/contributions/2263097/attachments/1318262/1975836/2016_07_29_TrackerDPGMeeting_DynIneffSimulation.pdf

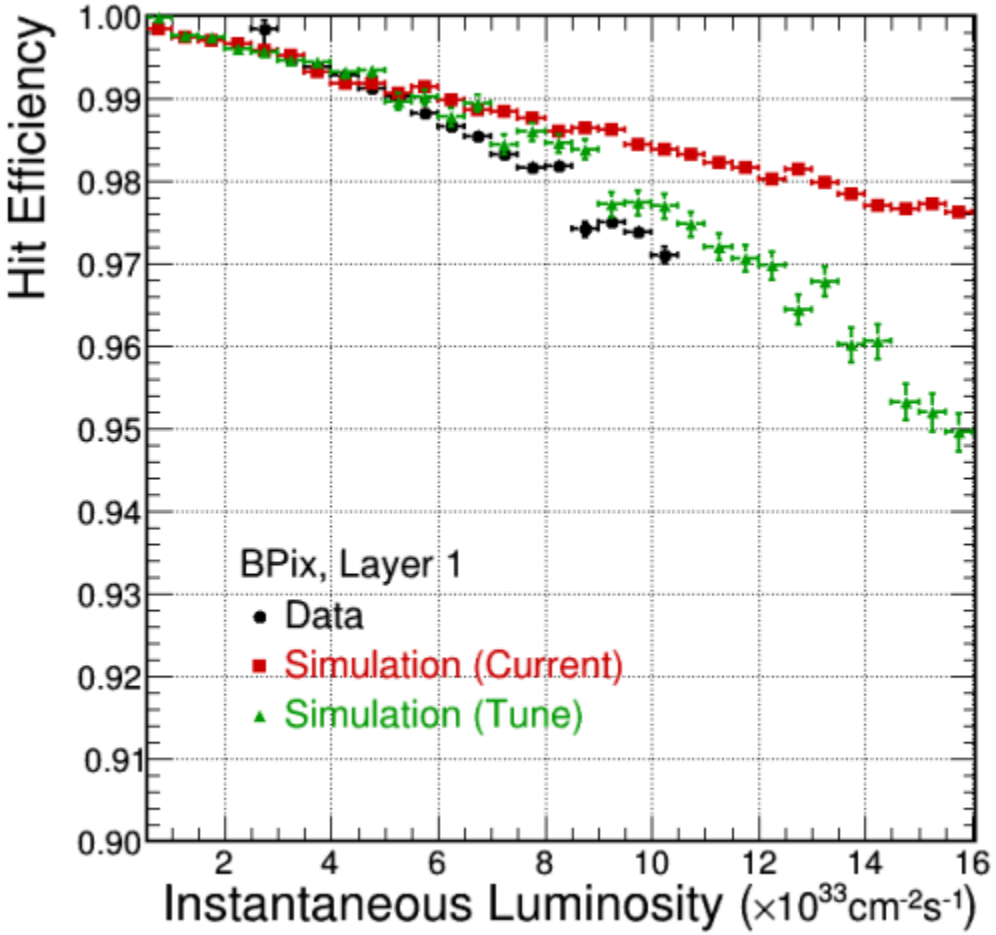
New double column efficiency parametrization
Convert hit efficiency to simulated double column loss,
Then fit with 2nd (layer 1 only) and 1st order polinomial

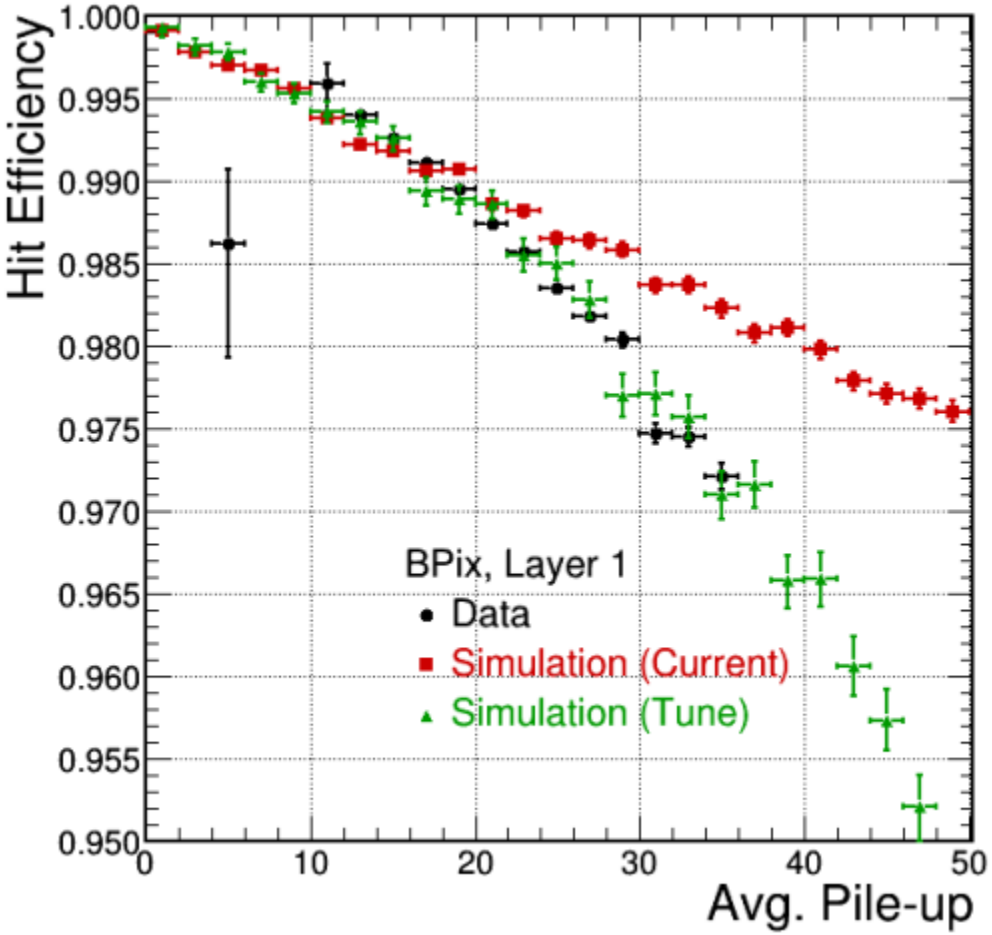
Dynamic Ineffiency



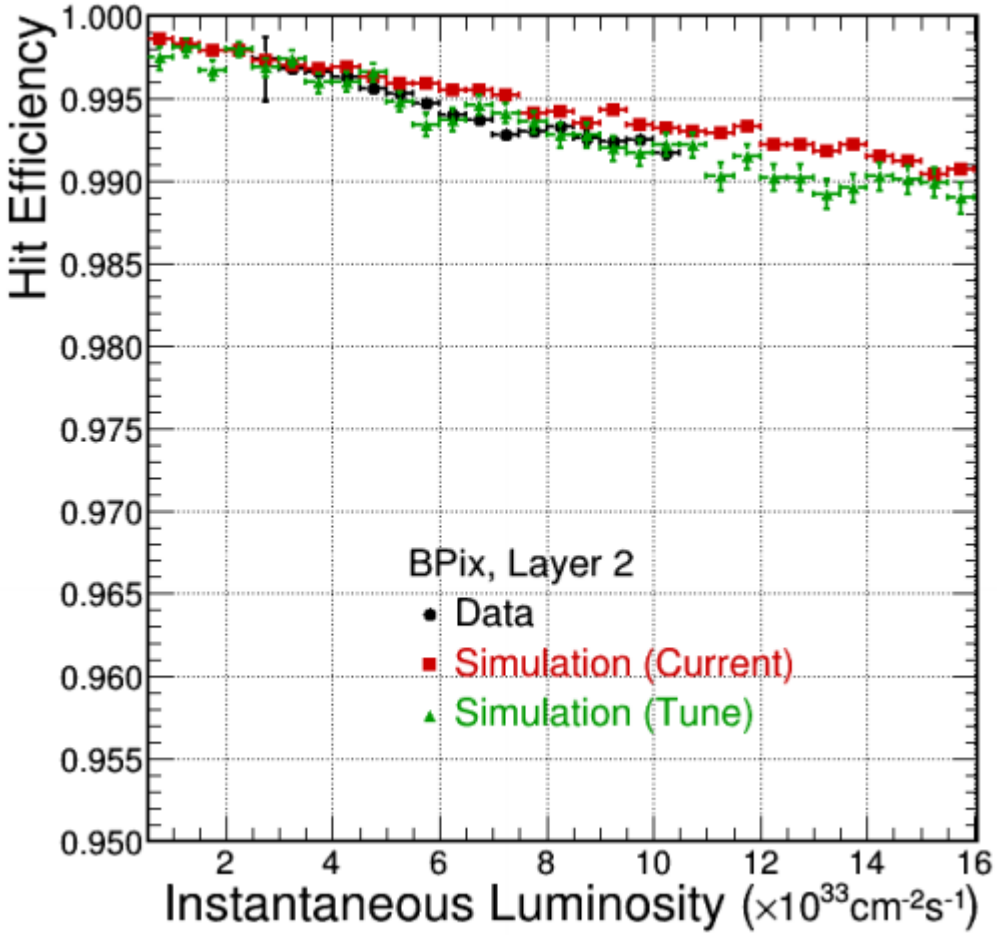


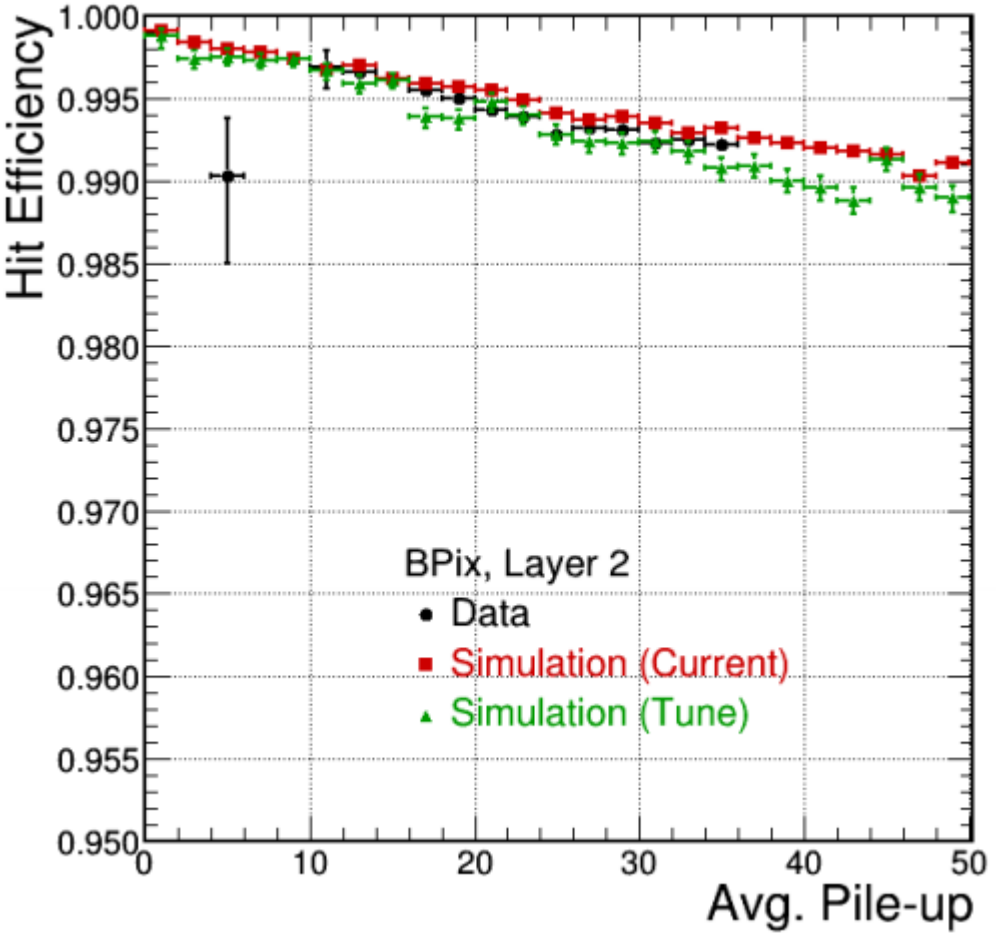
Dynamic Inefficiency – Layer 1



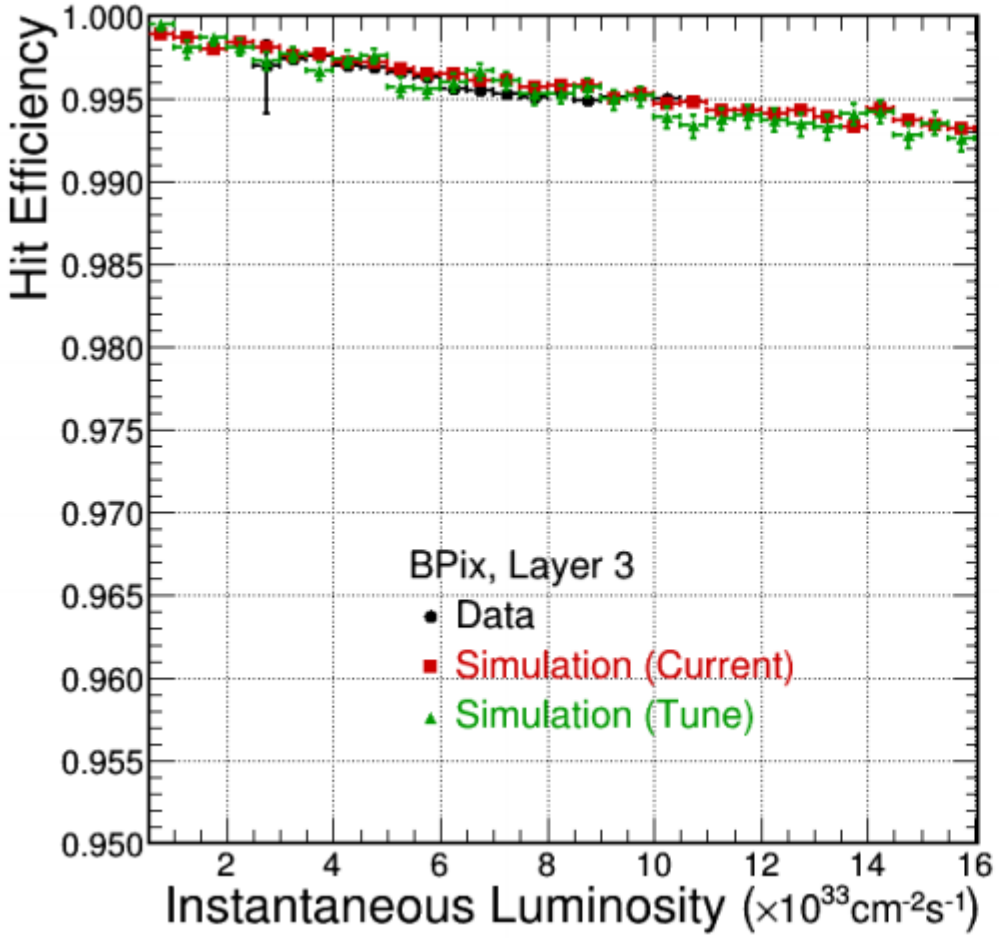


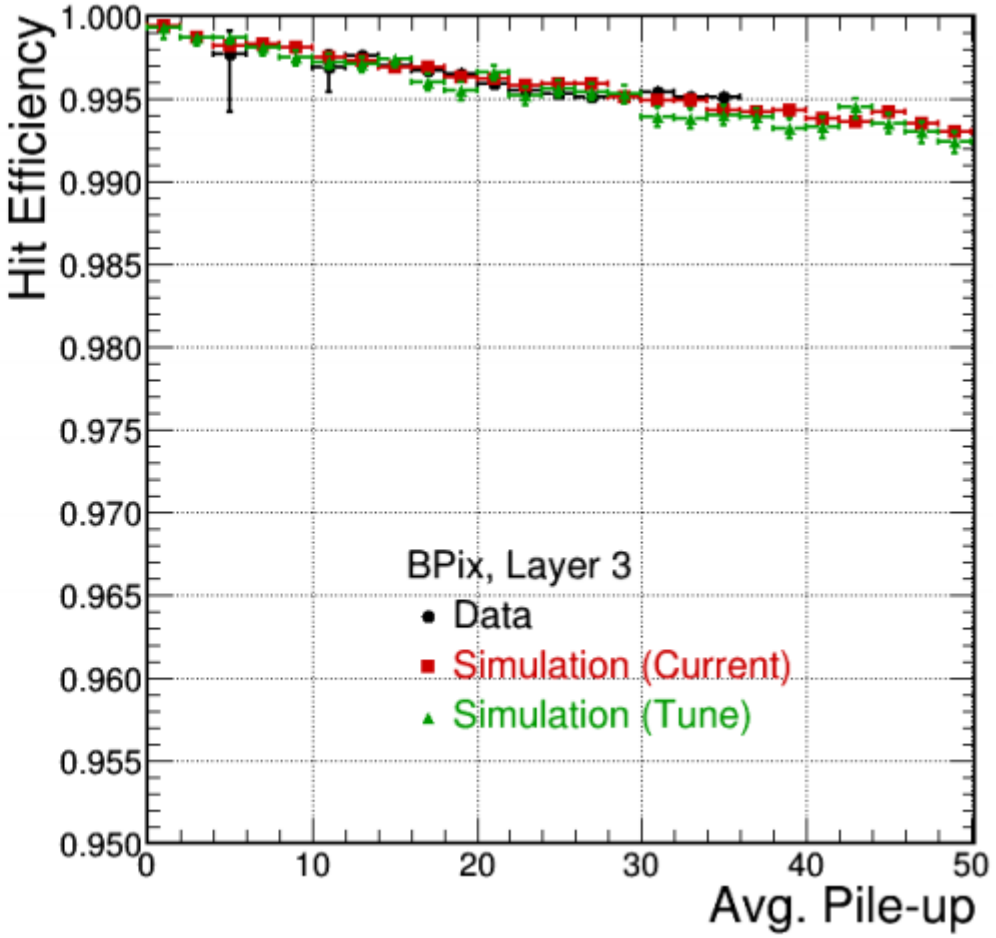
Dynamic Inefficiency – Layer 2





Dynamic Inefficiency – Layer 3





Dynamic Inefficiency

We do not currently simulate FPix inefficiency
The difference at highest pile-up is close to the systematic error of measurement

A new DB object is provided which shows very good performance

If we have time we can tune it further, but difference is only O(10^{-3}) for Layer 1/FPix