

Status Report on Pixel DB Conditions

Tamas Almos VAMI
for the Pixel Group

Wigner RCP,
Hungarian Academy of Sciences, Budapest

Pixel Offline Meeting, Thursday, September 17, 2015



25 ns Collision Run Conditions

- ▶ Pixel Detector calibrations were carried out during the TS2
- ▶ **New Bad Module list**
 - ▶ Twiki:
<https://twiki.cern.ch/twiki/bin/viewauth/CMS/SiPixelQualityHistory>
- ▶ **Lorentz Angle was measured**
 - ▶ Twiki:
<https://twiki.cern.ch/twiki/bin/view/CMS/SiPixelLorentzAngleHistory>
- ▶ **New Templates, GenErrors**
 - ▶ Twiki:
<https://twiki.cern.ch/twiki/bin/view/CMS/SiPixelTemplateHistory>
 - ▶ Twiki:
<https://twiki.cern.ch/twiki/bin/viewauth/CMS/SiPixelGenErrorHistory>
- ▶ **Gain calibration**
 - ▶ Twiki:
<https://twiki.cern.ch/twiki/bin/view/CMS/SiPixelGainHistory>

SiPixelQuality - tags

- ▶ Record: **SiPixelQualityFromDbRcd**
- ▶ Tag: **SiPixelQuality_v03_dup_hlt**
 - ▶ For HLT
 - ▶ FastTrack validation needed
- ▶ Tag: **SiPixelQuality_v5_hltvalidation**
 - ▶ Uploaded to ProdDB on 2015-09-04

Green light
granted

SiPixelQuality - tags

- ▶ Record: **SiPixelQualityFromDbRcd**
- ▶ Tag: **SiPixelQuality_v03_dup_hlt**
 - ▶ For HLT
 - ▶ FastTrack validation needed
- ▶ Containing **v28** from run 256168
- ▶ Uploaded to Prod on 2015-09-08

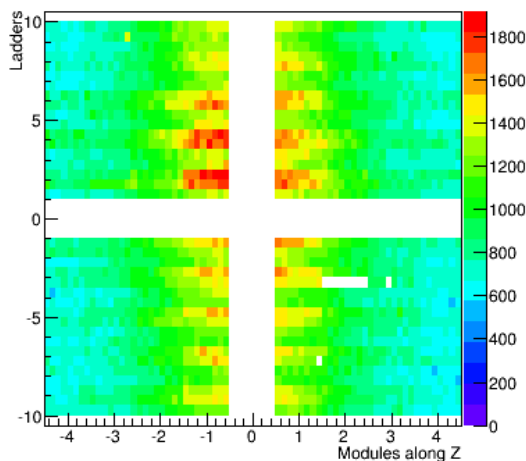
Green light
granted

SiPixelQuality – offline tags

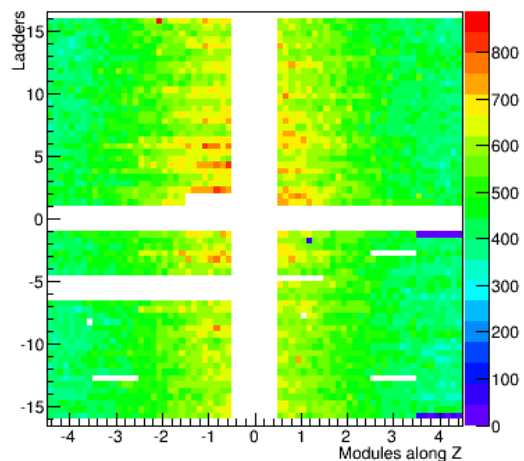
- ▶ Record: **SiPixelQualityFromDbRcd**
- ▶ Tag: **SiPixelQuality_v04_offline**
 - ▶ For Offline
 - ▶ No validation needed
- ▶ It is not uploaded yet
- ▶ From which run?

SiPixelQuality – data map

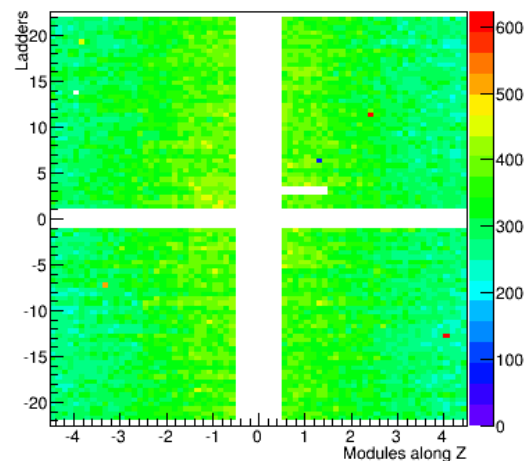
Layer 1



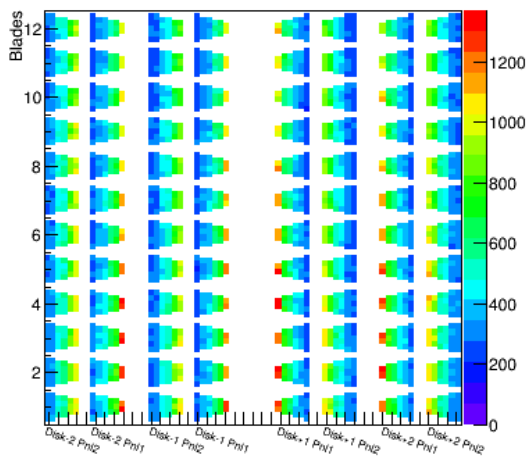
Layer 2



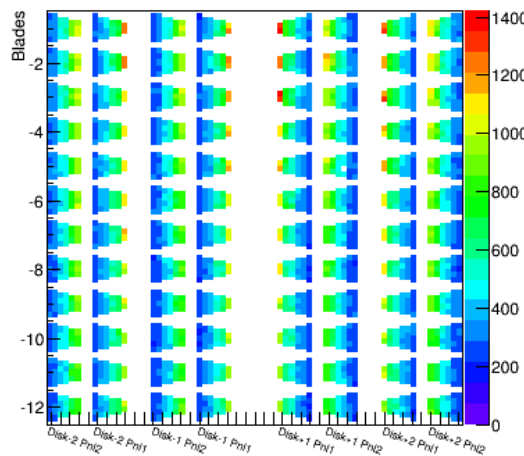
Layer 3



FPix Inner Shells (+x)



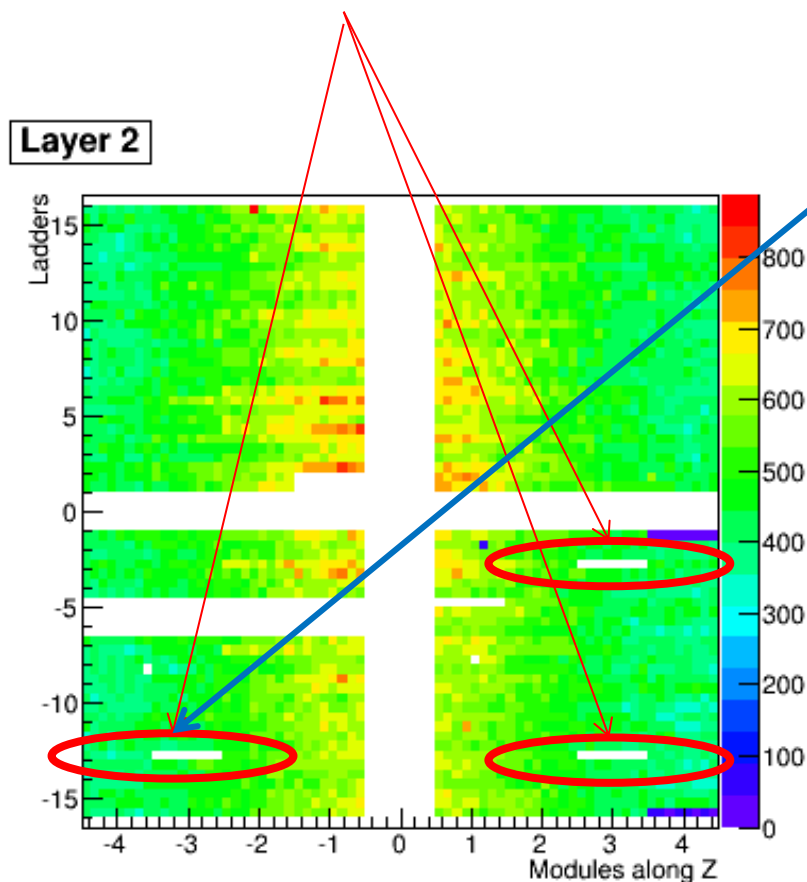
FPix Outer Shells (-X)



Run: 254790

SiPixelQuality – data map

► New bad modules



Repaired during TS2

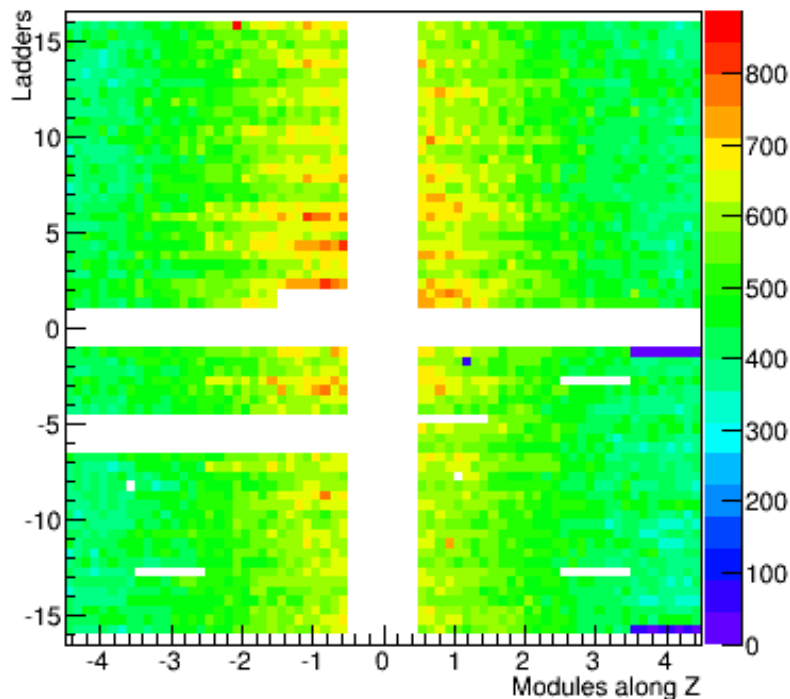
► New bad ROCs

- #BPix_BpO_LYR2_LDR8F_MOD1 (ROC3)
- #BPix_BmO_LYR2_LDR8F_MOD4 (ROC7)
- #BPix_BmI_LYR3_LDR14F_MOD4 (ROC11)
- #BPix_BpI_LYR3_LDR6F_MOD1 (ROC14)

SiPixelQuality – comparison

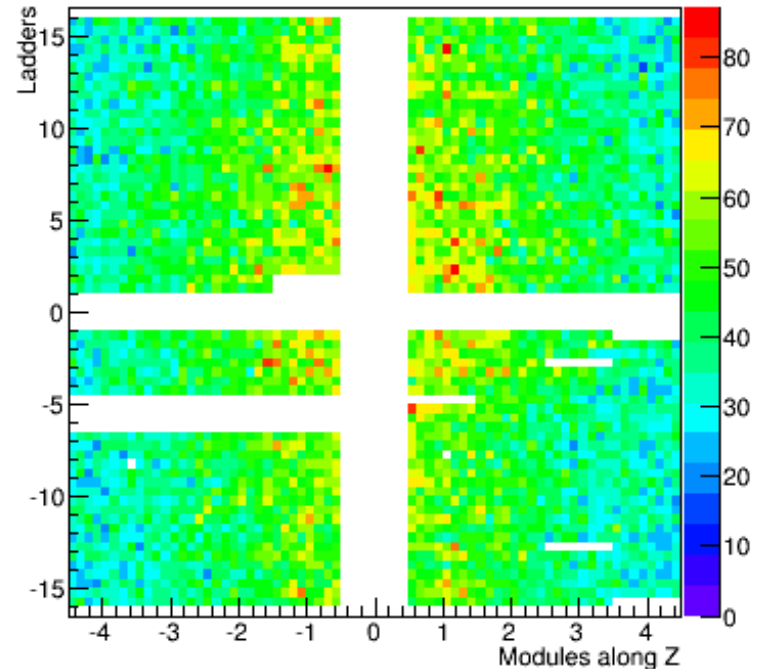
► Data

Layer 2



► Validation from MC

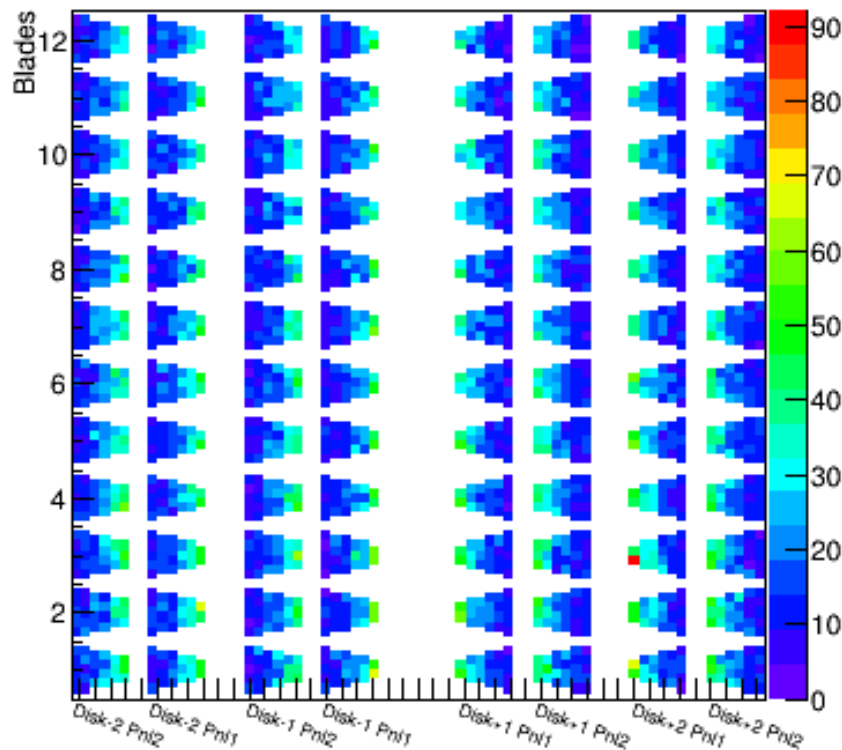
Layer 2



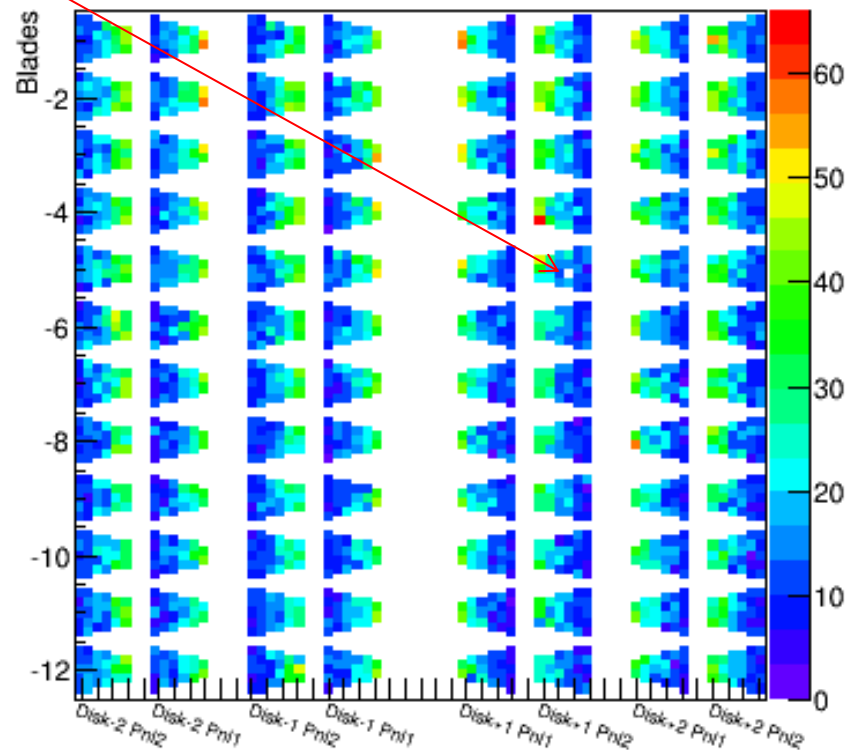
SiPixelQuality – data map

- FPix is OK, only 1 ROC is bad – included in DB

FPix Inner Shells (+x)



FPix Outer Shells (-X)



SiPixelLorentzAngle - tags

- ▶ Record: **SiPixelLorentzAngleRcd**
- ▶ Tag: **SiPixelLorentzAngle_2015_v3**
 - ▶ Uploaded to PrepDB on 2015-09-02
- ▶ Tag: **SiPixelLorentzAngle_2009_v1_[express,hlt,offline]**
 - ▶ Validation is needed
 - ▶ Accidentally uploaded to ProdDB on 2015-09-04
 - ▶ From Run 255731
- ▶ Tag: **SiPixelLorentzAngle_2015_v3_hltvalidation**
 - ▶ Uploaded to ProdDB on 2015-09-04

Waiting for green
light

SiPixelGenError - tags

- ▶ Record: **SiPixelGenErrorDBObjectRcd**
- ▶ Tag: **SiPixelGenErrorDBObject_38T_2015_v3**
 - ▶ Uploaded to PrepDB on 2015-09-02
- ▶ Tag: **SiPixelGenErrorDBObject_38T_v2 _[express, hlt]**
 - ▶ Validation is needed
- ▶ Tag: **SiPixelGenErrorDBObject_38T_2015_v3_hltvalidation**
 - ▶ Uploaded to ProdDB on 2015-09-04

Waiting for green
light

SiPixelGenError – offline tags

- ▶ Record: **SiPixelGenErrorDBObjectRcd**
- ▶ Tag: **SiPixelGenErrorDBObject_38T_2015_v3**
 - ▶ Uploaded to PrepDB on 2015-09-02
- ▶ Tag: **SiPixelGenErrorDBObject_38T_v2_offline**
 - ▶ No validation is needed
 - ▶ Containing **2015_v3** from run 255731
 - ▶ Uploaded to Prod on 2015-09-04

SiPixelTemplate – tags

- ▶ Record: **SiPixelTemplateDBObjectRcd**
 - ▶ Tag: **SiPixelTemplateDBObject_38T_2015_v3**
 - ▶ Uploaded to PrepDB on 2015-09-02
 - ▶ Tag: **SiPixelTemplateDBObject38Tv2 __[express,HLT]**
 - ▶ Validation is needed
 - ▶ Tag: **SiPixelTemplateDBObject_38T_2015_v3_HLTvalidation**
 - ▶ Uploaded to ProdDB on 2015-09-04
- Waiting for green light

SiPixelTemplate – offline tags

- ▶ Record: **SiPixelTemplateDBObjectRcd**
- ▶ Tag: **SiPixelTemplateDBObject_38T_2015_v3**
 - ▶ Uploaded to PrepDB on 2015-09-02
- ▶ Tag: **SiPixelTemplateDBObject_38T_v6_offline**
 - ▶ No validation is needed
 - ▶ Containing **2015_v3** from run 255731
 - ▶ Uploaded to Prod on 2015-09-04

SiPixelGainCalibration - tags

- ▶ Record: **SiPixelGainCalibrationForHLTRcd**
- ▶ Description:
 - ▶ ...HLT... - gains/pedestals are per column,
 - ▶ ...Offline... - gains are per column, pedestals are per pixel
- ▶ Tag: **SiPixelGainCalibrationHLT_2009runs_[hlt,express]**
- ▶ Tag: **SiPixelGainCalibration_2009runs_[hlt,express]**
 - ▶ Validation is needed
- ▶ Tag: **SiPixelGainCalibration_2015_v3_hltvalidation**
 - ▶ Uploaded to ProdDB on 2015-09-05

Green light
granted

SiPixelGainCalibration - tags

- ▶ Record: **SiPixelGainCalibrationForHLTRcd**
- ▶ Description:
 - ▶ ...HLT... - gains/pedestals are per column,
 - ▶ ...Offline... - gains are per column, pedestals are per pixel
- ▶ Tag: **SiPixelGainCalibrationHLT_2009runs_[hlt,express]**
- ▶ Tag: **SiPixelGainCalibration_2009runs_[hlt,express]**
 - ▶ Validation is needed
 - ▶ All containing **2015_v3** from run 256491
 - ▶ Uploaded to Prod on 2015-09-15

Green light
granted

SiPixelGainCalibration - tags

- ▶ Record: **SiPixelGainCalibrationOfflineRcd**
- ▶ Description:
 - ▶ ...HLT... - gains/pedestals are per column,
 - ▶ ...Offline... - gains are per column, pedestals are per pixel
- ▶ Tag: **SiPixelGainCalibrationHLT_2009runs__offline**
- ▶ Tag: **SiPixelGainCalibration_2009runs_offline**
 - ▶ No validation is needed
 - ▶ Not uploaded yet
 - ▶ From which run?

Generally about offline tags

- ▶ We will have better information about 2015C in the future
- ▶ That should be before the already uploaded 2015D conditions
- ▶ As a conclusion, before ReReco I will rebuild the offline tags
- ▶ (Do we already know the date of the ReReco?)

Summer15 DR Conditions

- ▶ New Bad Module list

- ▶ Twiki:

- <https://twiki.cern.ch/twiki/bin/viewauth/CMS/SiPixelQualityHistory>

- ▶ Pixel Dynamic Inefficiency

- ▶ Twiki:

- <https://twiki.cern.ch/twiki/bin/view/CMS/SiPixelDynamicInefficiencyHistory>

SiPixelQuality - tags

- ▶ Record: **SiPixelQualityFromDbRcd**
- ▶ Tag: **SiPixelQuality_v28_mc**
 - ▶ For MC
 - ▶ Containing Tag: **SiPixelQuality_v5_hltvalidation**
 - ▶ Uploaded to Prod on 2015-09-08
 - ▶ Queued to RunII Simulation

Green light
granted

SiPixelDynamicInefficiency- tags

- ▶ Record: **SiPixelDynamicInefficiencyRcd**
- ▶ Tag: **SiPixelDynamicInefficiency_13TeV_50ns_v2_mc**
 - ▶ Payload is ready
 - ▶ Not able to upload (CMSSW version number change)
 - ▶ AlCaDB group is on it – manual upload
- ▶ Tag: **SiPixelDynamicInefficiency_13TeV_v1_mc**
 - ▶ For 25 ns run
 - ▶ Uploaded to ProdDB on 2015-05-19

Green light
granted