

Expert-level offline DQM monitoring for KLM

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BNL Summer School,
Student Presentation Session
2 August 2019

Introduction

- The offline data-quality monitoring (DQM) plots for KLM are available on KEKCC at the common area: /ghi/fs01/belle2/bdata/group/detector/BKLM/Run_Analysis.
- The offline DQM web-page (<https://dqm.belle2.org/klm/>) for KLM scrutinizes the performance of the detector in varied details without logging in to KEKCC.
- The DQM plots have been categorized to show different aspects to help experts diagnose problems in the specific areas, in case any development is needed, and provide feedback before next set of runs are collected.
- The web-page can be accessed via any computer/laptop or a mobile device for ease of portability.

Snapshot of the main DQM/KLM page



The screenshot shows a mobile browser interface. At the top, the status bar displays 'Lycamobile', signal strength, Wi-Fi, time '10:33 PM', and battery '16%'. The address bar shows 'dqm.belle2.org'. The main content area has the heading 'Expert-level DQM plots for KLM' followed by '(runs with >1M events shown)', 'Send comments to [Atanu Pathak](#)', and 'Last modified: Tue Jul 30 13:33:39 2019'. Below this is a list of dates with event ranges: '09 May 2019 (43 - 48)', '10 May 2019 (50 - 117)', '11 May 2019 (120 - 156)', '12 May 2019 (173 - 221)', '13 May 2019 (223 - 282)', '14 May 2019 (287 - 332)', '15 May 2019 (339 - 364)', '16 May 2019 (367 - 377)', '17 May 2019 (554 - 569)', '18 May 2019 (654 - 784)', '19 May 2019 (786 - 834)', '20 May 2019 (836 - 849)', and '21 May 2019 (1001 - 1038)'. The bottom navigation bar contains back, forward, share, book, and tabs icons.

Snapshot of the main DQM/KLM page



Raw KLM

Lycamobile 7:39 PM 46%

dqm.belle2.org

Expert-level DQM plots for KLM

(runs with >1M events shown)

26 Jun 2019 (3115, 3118, 3121, 3123)

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Last modified: Tue Jul 30 13:59:15 2019

BKLM Plots for run 3115:

- RawKLM
- Sector occupancy
- RPC time
- Scint time
- Occupancy (x/y view)
- z hits by sector
- phi hits by sector

BKLM Plots for run 3118:

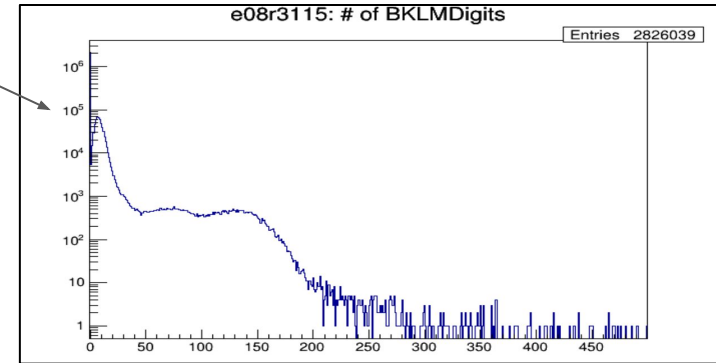
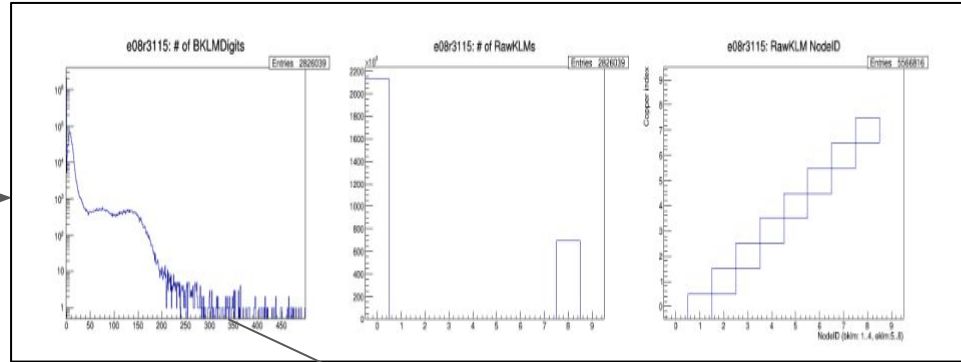
- RawKLM
- Sector occupancy
- RPC time
- Scint time
- Occupancy (x/y view)
- z hits by sector
- phi hits by sector

BKLM Plots for run 3121:

- RawKLM
- Sector occupancy
- RPC time
- Scint time
- Occupancy (x/y view)
- z hits by sector
- phi hits by sector

BKLM Plots for run 3123:

- RawKLM
- Sector occupancy
- RPC time
- Scint time
- Occupancy (x/y view)
- z hits by sector
- phi hits by sector



Sector Occupancy

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BKLM Plots for run 3118:

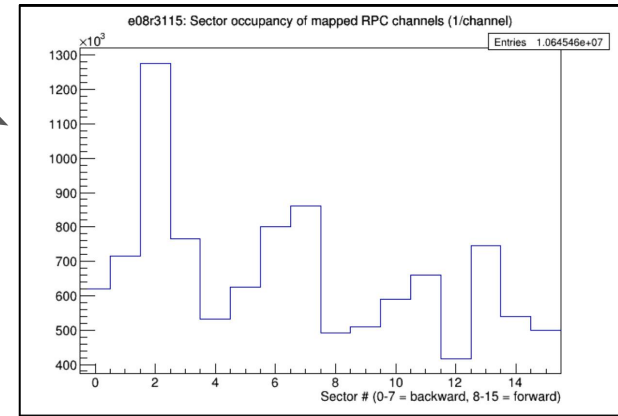
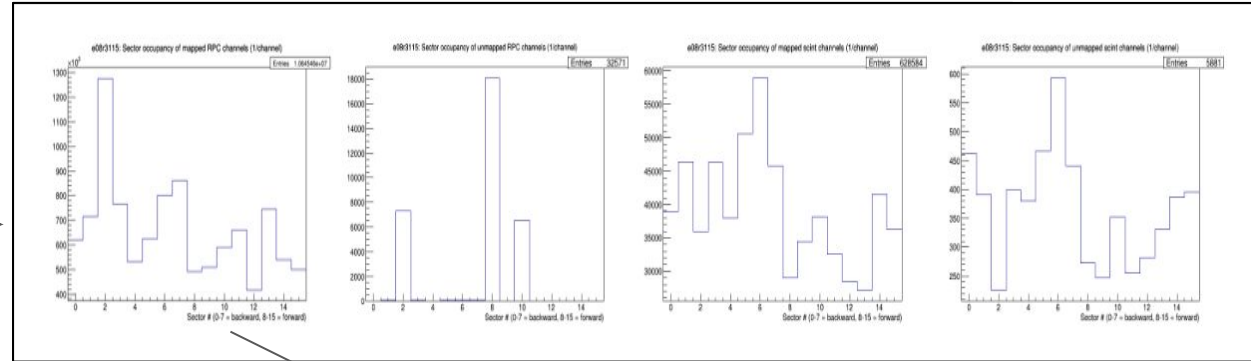
- RawKLM
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BKLM Plots for run 3121:

- RawKLM
- Sector occupancy
- RPC time
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BKLM Plots for run 3123:

- RawKLM
- Sector occupancy
- RPC time
- Scint time
- Occupancy (x/y view)
- z hits by sector
- phi hits by sector



RPC time

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Expert-level DQM plots for KLM

(runs with >1M events shown)

26 Jun 2019 (3115, 3118, 3121, 3123)

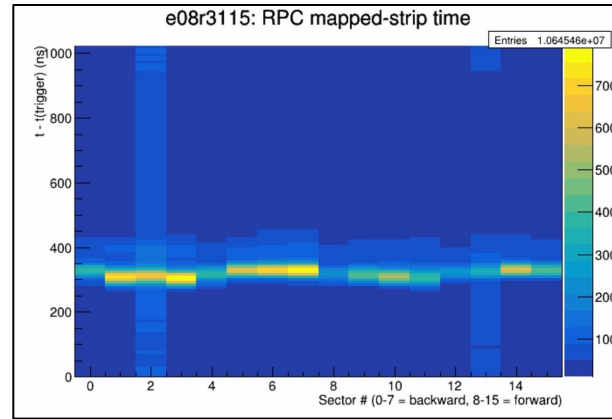
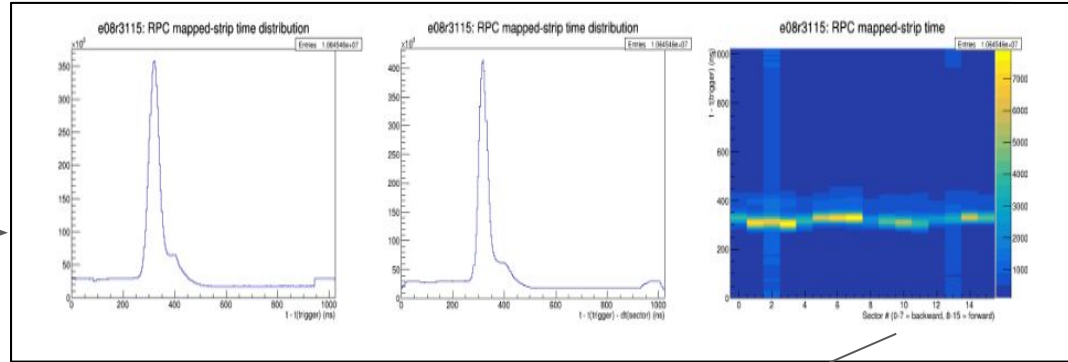
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BKLM Plots for run 3115:
[RawKLM](#)
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[Scint time](#)
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[phi hits by sector](#)

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[phi hits by sector](#)

BKLM Plots for run 3121:
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[Sector occupancy](#)
[RPC time](#)
[Scint time](#)
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BKLM Plots for run 3123:
[RawKLM](#)
[Sector occupancy](#)
[RPC time](#)
[Scint time](#)
[Occupancy \(x/y view\)](#)
[z hits by sector](#)
[phi hits by sector](#)



Scint time

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Expert-level DQM plots for KLM

(runs with >1M events shown)

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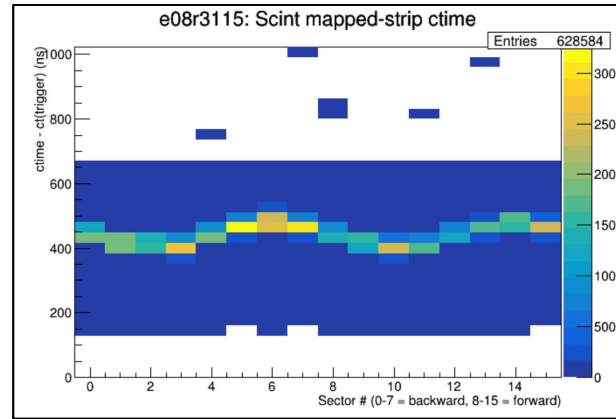
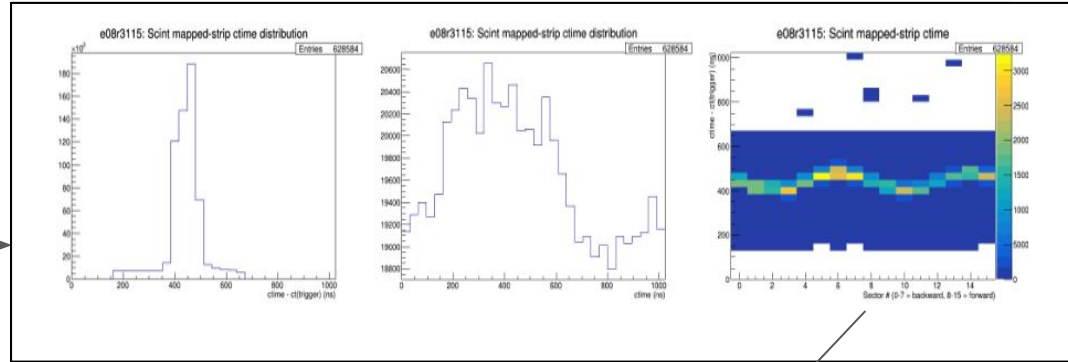
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BKLM Plots for run 3121:

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BKLM Plots for run 3123:

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- z hits by sector
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Occupancy (x/y view)

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Expert-level DQM plots for KLM

(runs with >1M events shown)

26 Jun 2019 (3115, 3118, 3121, 3123)

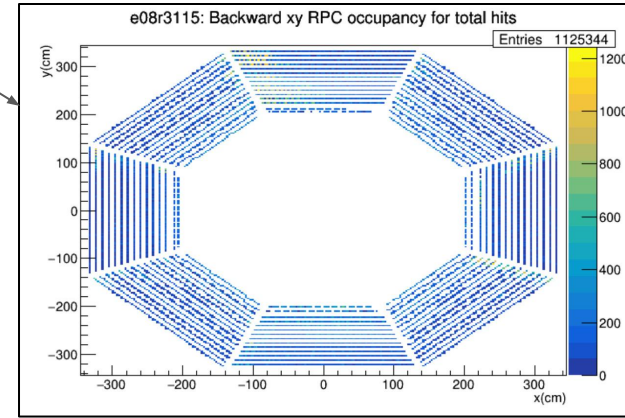
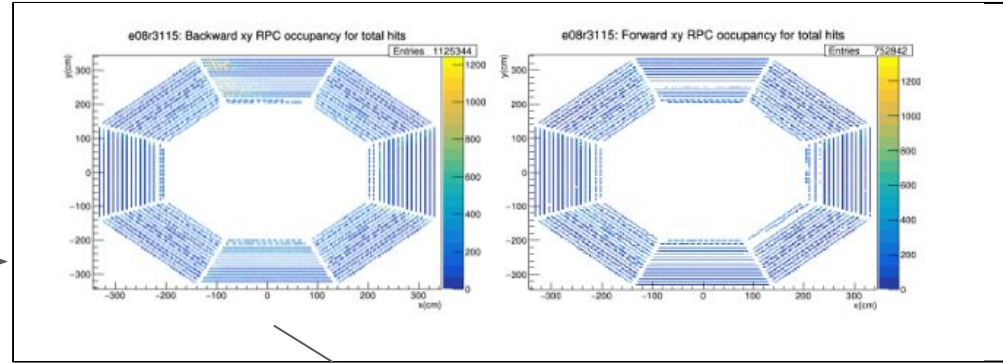
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Z hit by Sector

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Expert-level DQM plots for KLM

(runs with >1M events shown)

26 Jun 2019 (3115, 3118, 3121, 3123)

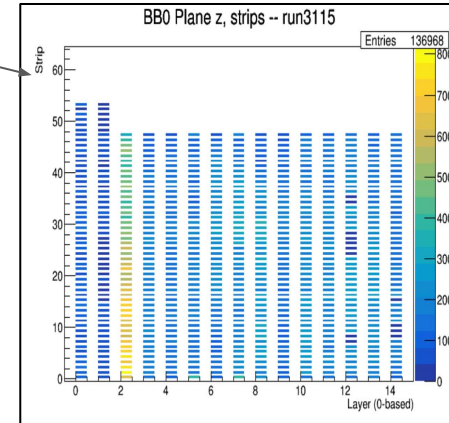
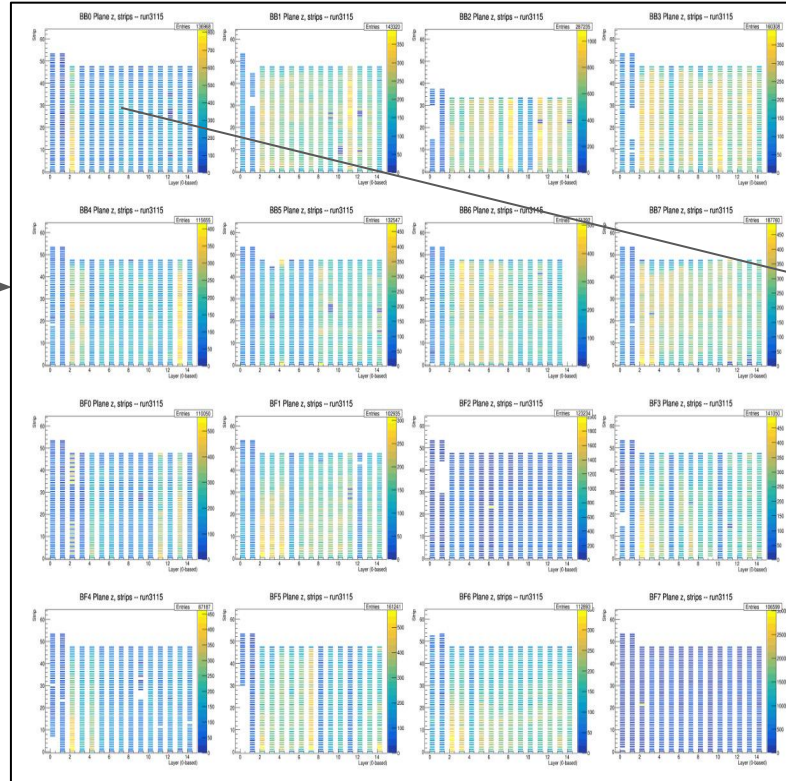
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BKLM Plots for run 3121:
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BKLM Plots for run 3123:
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[phi hits by sector](#)



Phi hit by Sector

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Expert-level DQM plots for KLM

(runs with >1M events shown)

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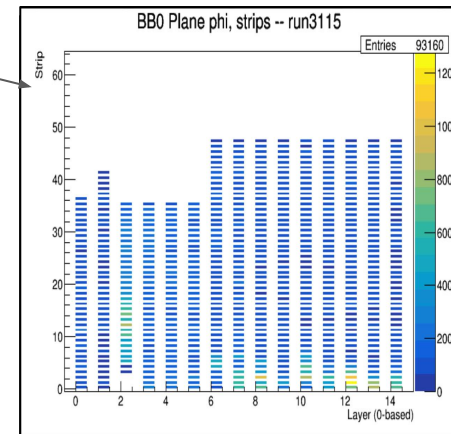
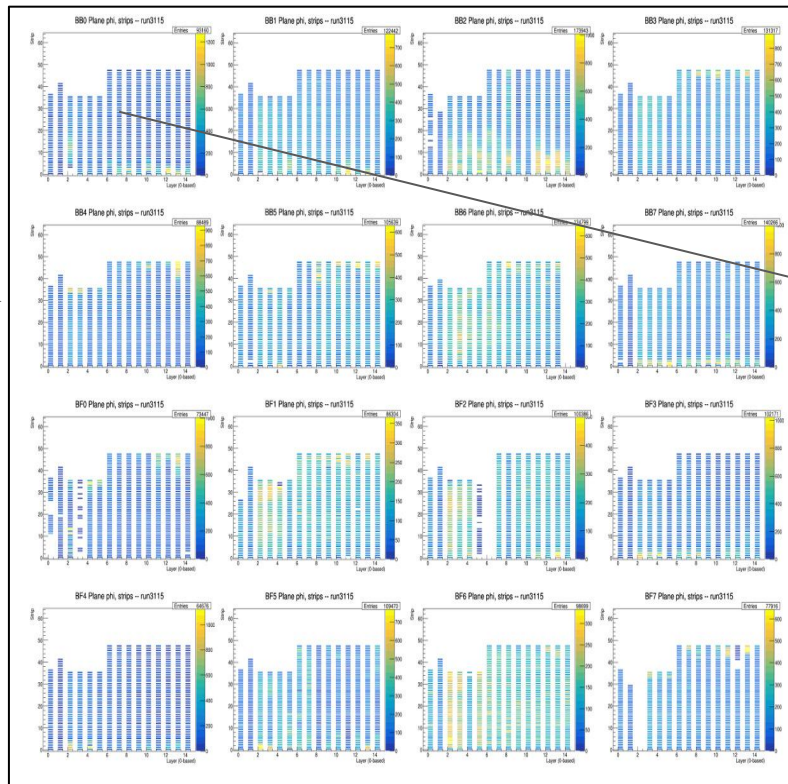
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Summary

- The expert-level DQM web-page for KLM is complete for data-taking period 9 May to 26 May 2019 for all runs with $>1\text{M}$ events.
- Plots will be uploaded when data-taking starts on 15 October shortly afterwards.
- So far the DQM page is updated with barrel part of the KLM detector, but the future plans are to include the data-quality monitoring plots for the endcap KLM as well.
- In future, every other run details like “how long run taken”, “number of events”, “trigger type and rate” will be added in the DQM page.