

BKLM DQM Manual

Global Cosmic Run (version 1)

27 July 2017

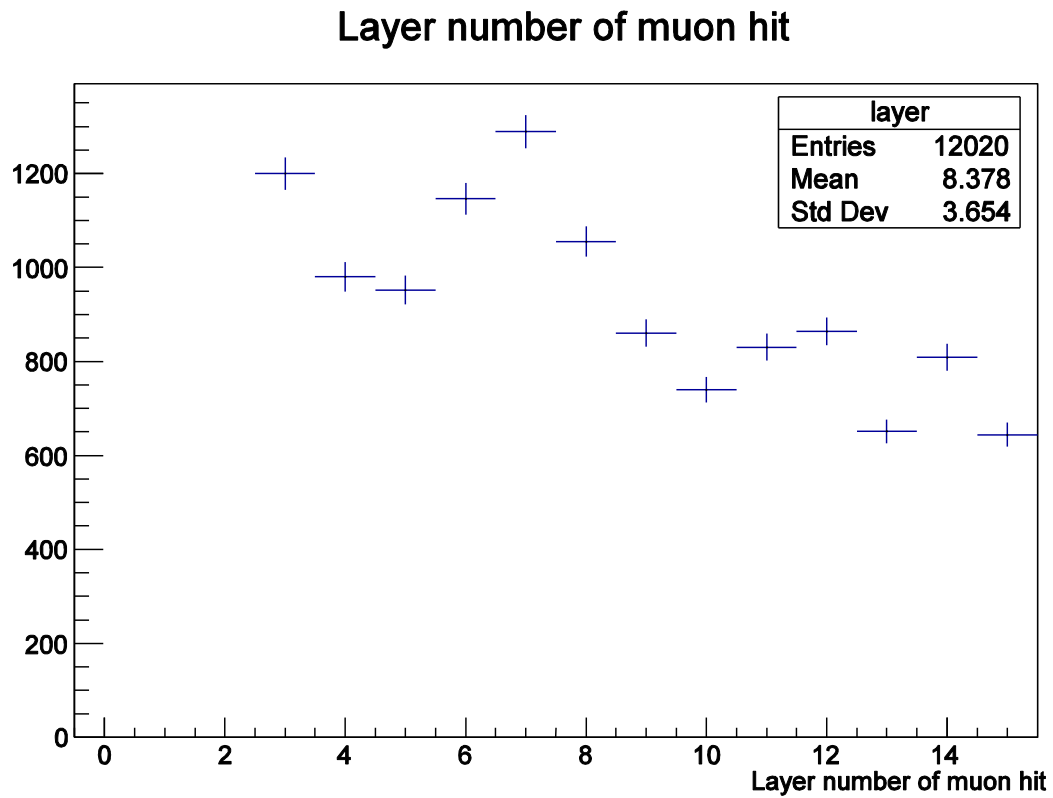
Contact: Vipin Gaur, Prof. Leo Piilonen (Virginia Tech, USA)

Suggestions from Yinghui:

1. To use run GCR3580 in which we first included both barrel forward KLM and barrel backward KLM
2. In run GCR3580 the scintillator hits is absent, that's why we can-not obtain the pulse height (charge)

“Reconstructed hit time relative to trigger” information is recorded but interpreter error recovered while plotting in ROOT

Same issue with GCR3647 → Mention it to Itoh-San

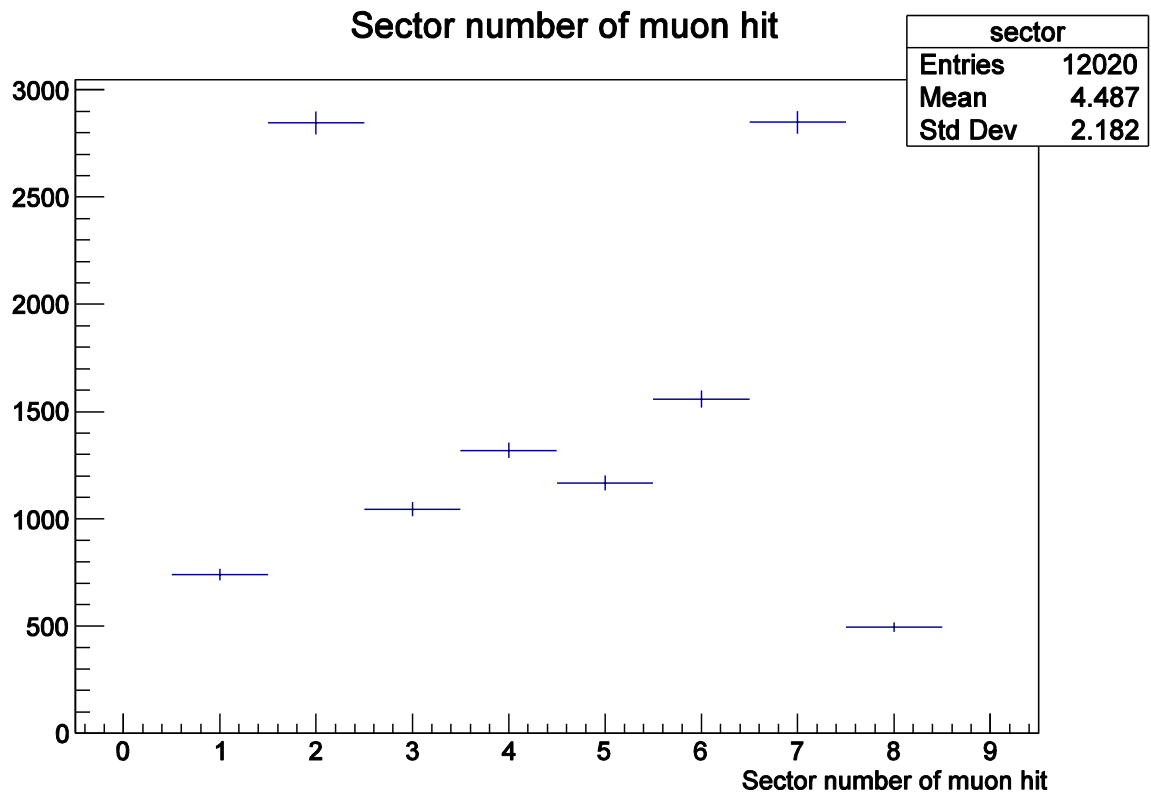


Description: The raw number of hits for each BKLM layer is histogrammed

Key features: Hits decreases with an increasing number of layers

You should check that: Should peak at 1 and then a tail from left to right. The typical number of hits decreases across the plot as shown after 1

Known problem: Hits missing in first two layers. Peak at 1 is not observed

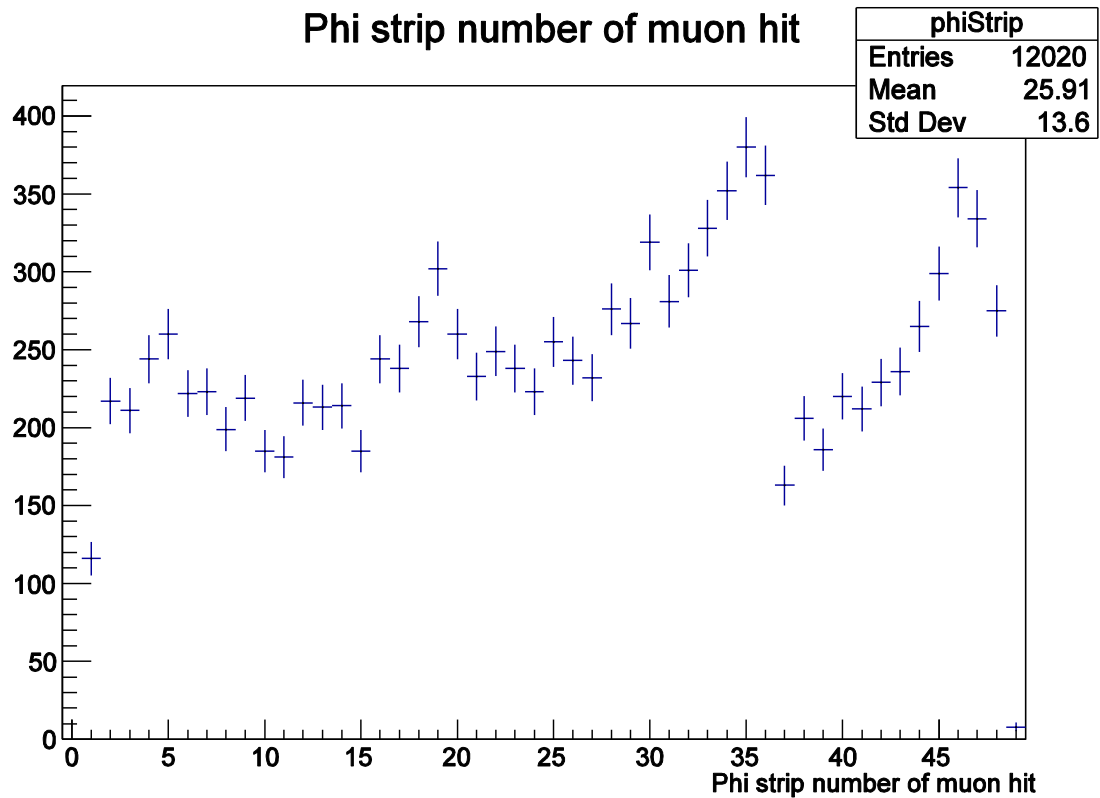


Description: The raw number of hits for each sector of the BKLM is histogrammed

Key features: The hit distribution should roughly be flat for all sectors from 1 to 8

You should check that: Hits in all eight sectors and distribution to be roughly flat. There should be no bins where the hit is significantly higher or lower than the reference

Known problem: Non uniform flat hits may be due to hits missed in first two layers



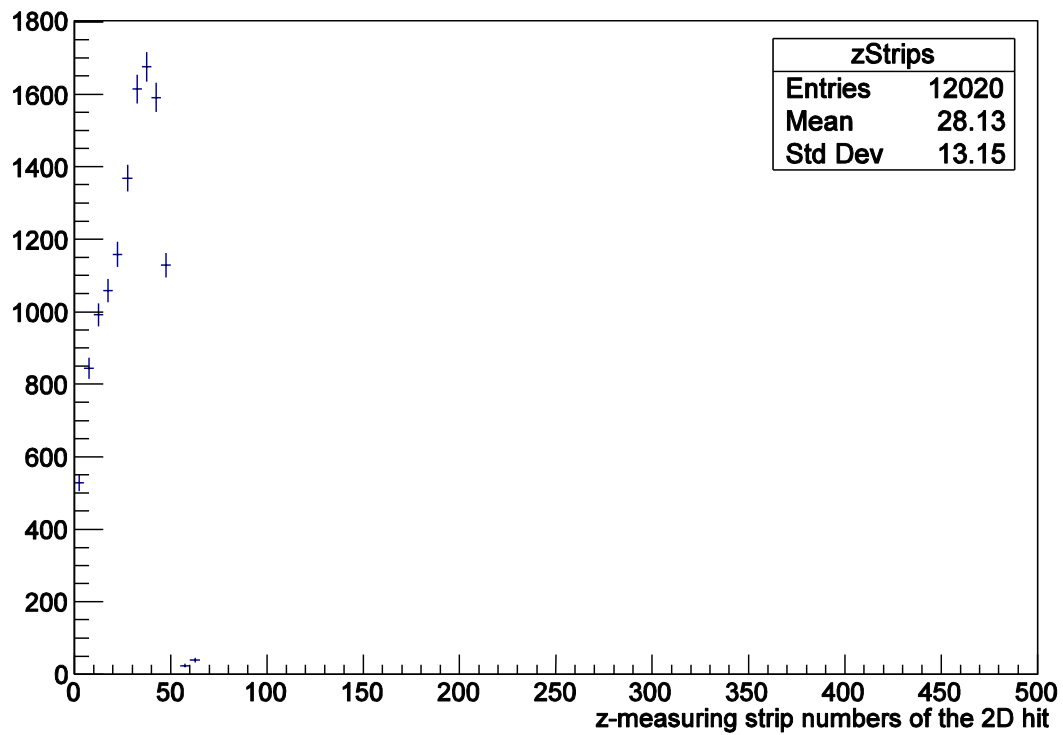
Description: The raw number of hits for each BKLM phi strip is histogrammed

Key feature: The distribution should be roughly flat from 1 to 35 for all layers. After 35 there should be a downward sloping for layers starting 6 or 7 onwards

You should check that: Flat distribution followed by a downward sloping

Known problems: The downward sloping is not clearly visible

z-measuring strip numbers of the 2D hit

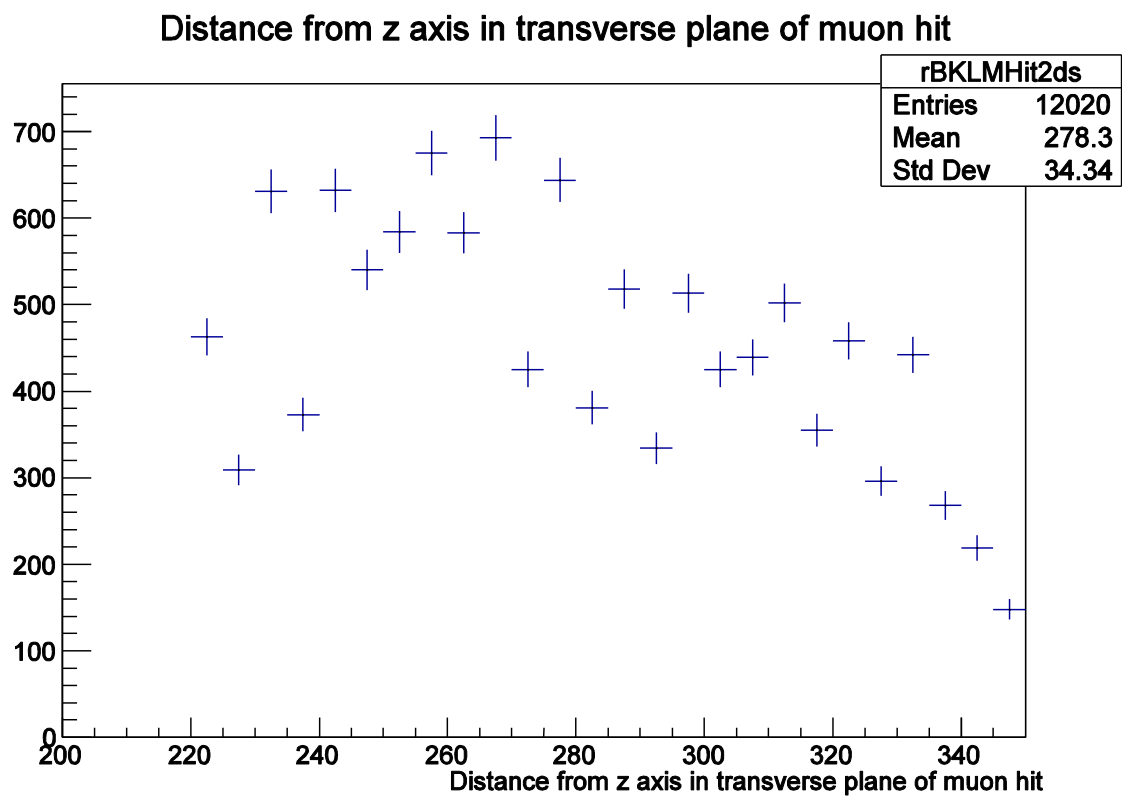


Description: The raw number of hits of the BKLM z measuring strips

Key feature: Shoulder from 49 for starting first few layers while below 49 a downward sloping for all layers

You should check that: The hit pattern is same as the reference with the downward sloping behaviour followed by the shoulder after 48

Known problems: None



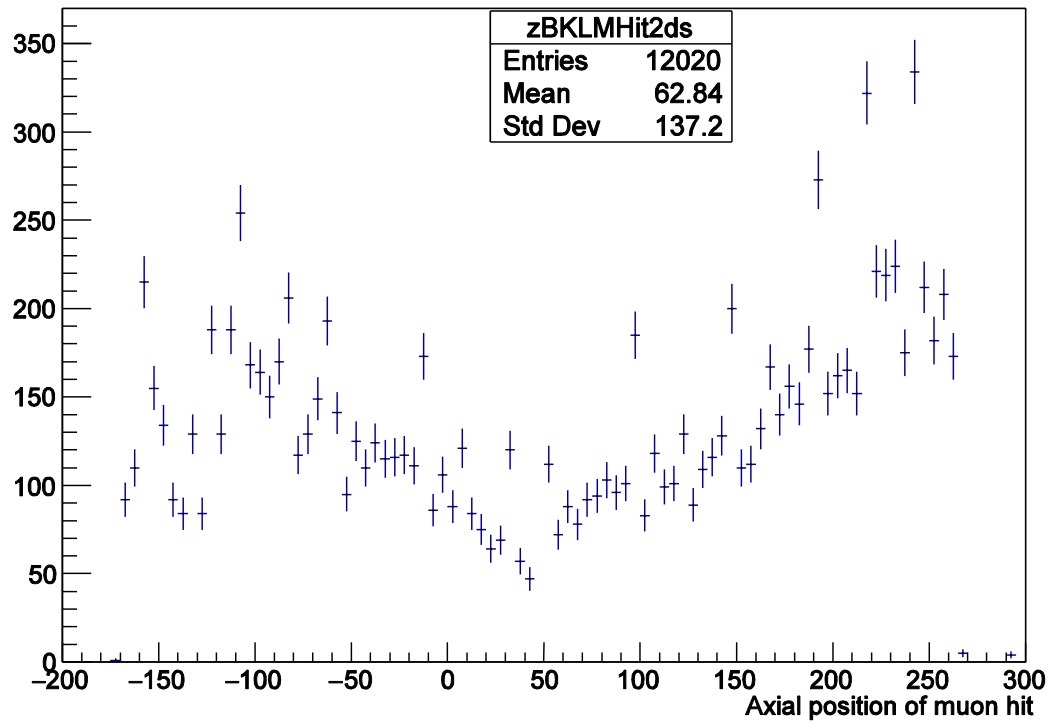
Description: The plot shows distance from z axis in transverse plane of muon hits

Key features: The hits should decrease eventually with an increasing distance from the z axis in transverse plane

You should check that: The hit pattern is same as the reference with a choppy downward sloping behaviour

Known problems: Hits missing in between 200 to 220

Axial position of muon hit

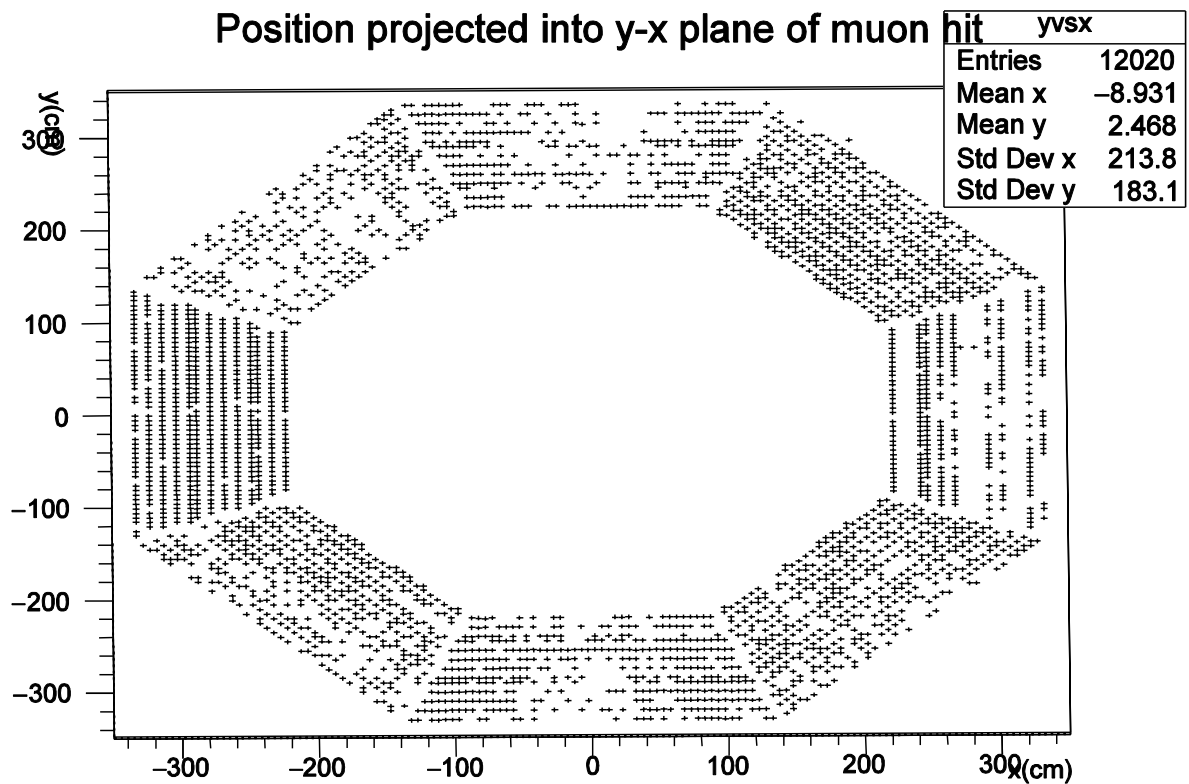


Description: The plot shows axial position of muon hit

Key feature: Dip around 45 cm

You should check that: The hit pattern is same as the reference with dip around 45

Known problems:



Description: The plot shows position projected into y-x plane of muon hit

Key feature: Octagonal pattern with all layers

You should check that: Hits in all eight sectors with uniform distribution

Known problems: Hits in some layers are missing