

Beam Halo data – trigger selection

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DESY/UniHH Alignment meeting

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Data sample

- Dataset: /Cosmics/Commissioning10-StreamTkAlBeamHalo-v9/ALCARECO
- Run: 135244
- Date: 10/05/2010
- Track selection:
 - Nhits ≥ 8
 - $d_0 > 8$ cm
 - $|\eta| > 1.8$
 - $|V_z| > 150$ cm

Reminder on trigger bits

• L1Tech_BSC_halo_beam2_inner	36
• L1Tech_BSC_halo_beam2_outer	37
• L1Tech_BSC_halo_beam1_inner	38
• L1Tech_BSC_halo_beam1_outer	39
• L1Tech_BSC_minBias_threshold1	40
• L1Tech_BSC_minBias_threshold2	41
• L1Tech_BSC_splash_beam1	42
• L1Tech_BSC_splash_beam2	43

Trigger selection

a) '0 AND (36 OR 37 OR 38 OR 39)':

– 4770 evts, 15297 trks

b) '0 AND (36 OR 37 OR 38 OR 39) AND NOT (40 OR 41)':

– 3887 evts, 12538 trks

c) '0 AND (36 OR 37 OR 38 OR 39) AND NOT (40 OR 41 OR 42 OR 43)':

– 852 evts, 2644 trks

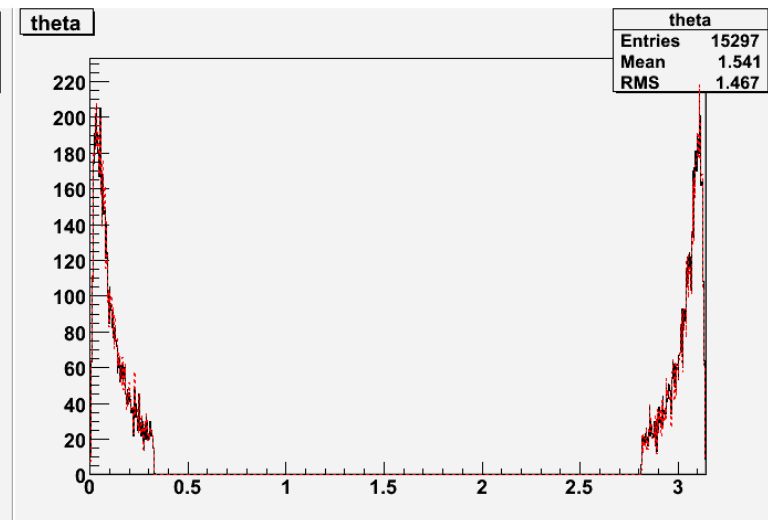
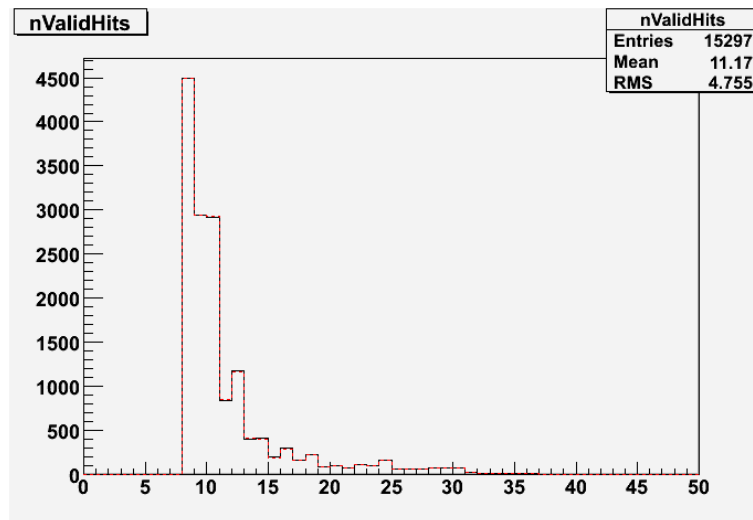
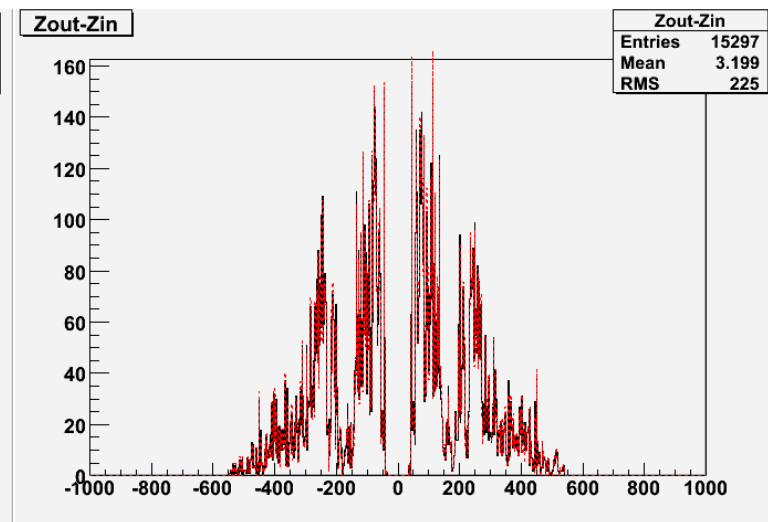
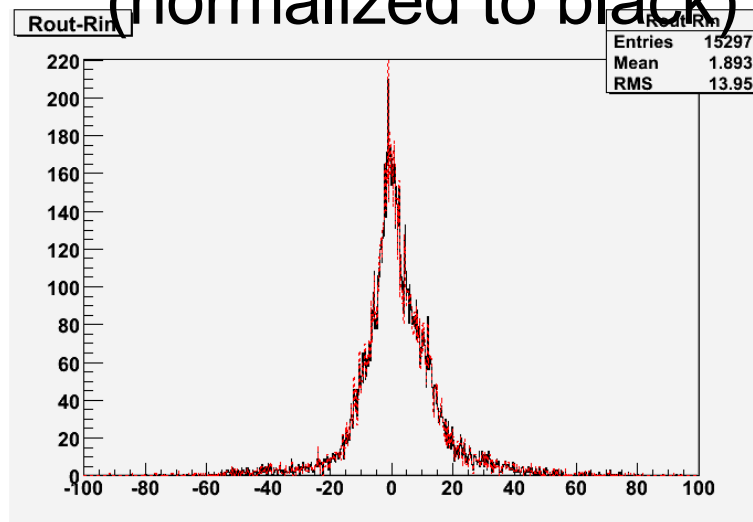
d) '0 AND (36 OR 37 OR 38 OR 39) AND NOT (40 OR 41) AND NOT ((42 AND (NOT 43)) OR (43 AND (NOT 42)))':

– 853 evts, 2650 trks

Vetoing minBias

- “black” → a)

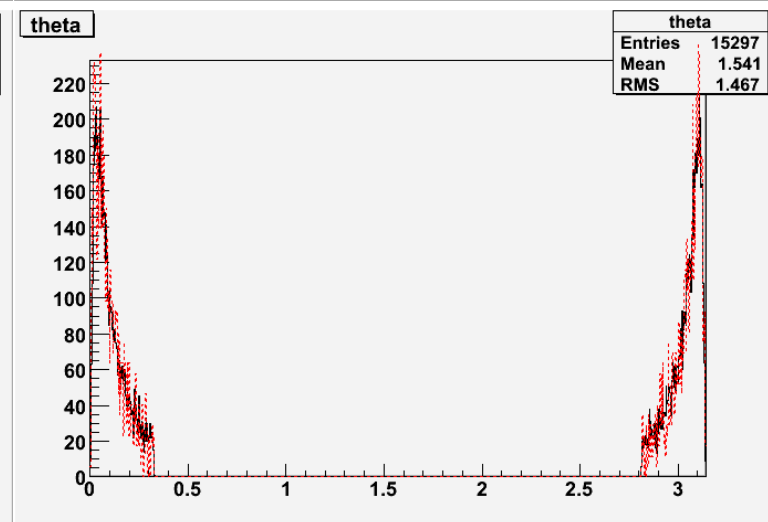
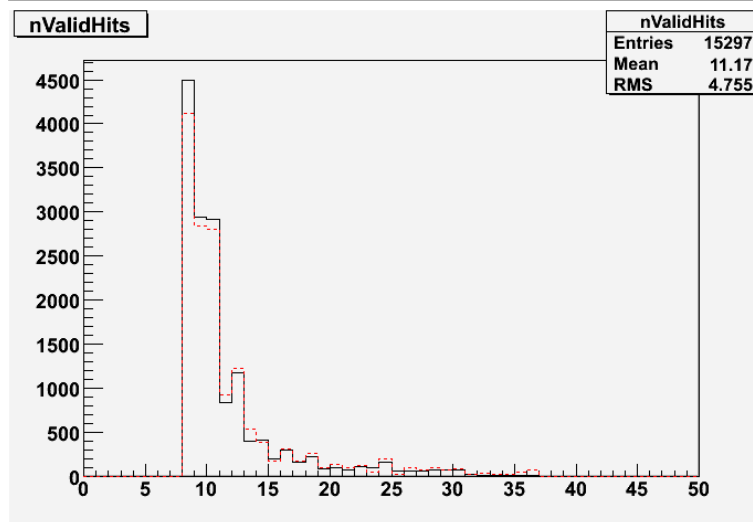
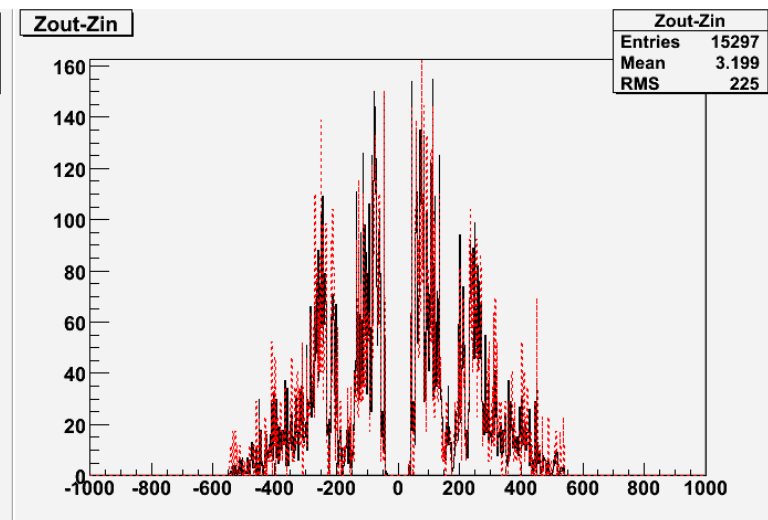
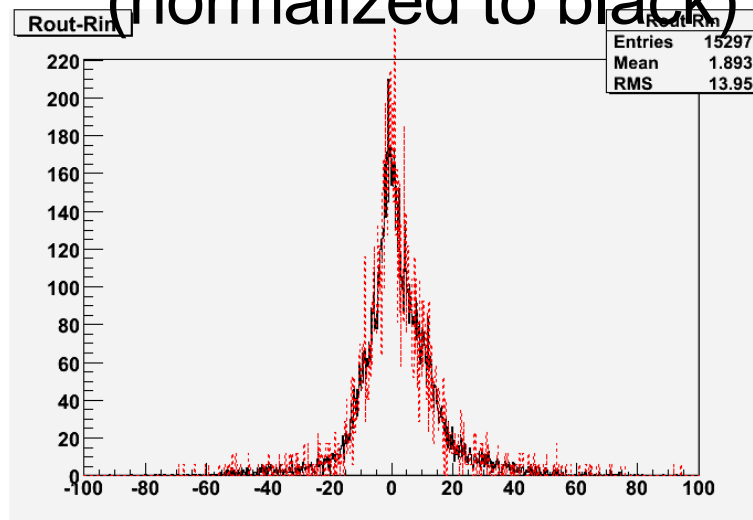
- “red” → b) (normalized to black)



Vetoing minBias && splash

- “black” → a)

- “red” → c) (normalized to black)



Conclusion / Plans

- No big change in shapes when vetoing minBias and splash trigger bits, only reduction in the statistics
- Ongoing: setting up MillePede configuration to run on beam halo events