

Selection for Run 136066

- this analysis was done in assumption that during spikes we got corrupted data, so it could be abnormal high activity in CSCTF
- Analyze run 136066 using data from

`/store/data/Run2010A/MinimumBias/RAW/v1/000/136/066/`
- Use official Prompt Code: `/UserCode/L1TriggerDPG/`
- Create 4 ntuples: 01, 02, 03 and 04 for analysis
- It is appeared that in this run we have strange events with high activity in CSCTF (see next slide with listed such events):
 - number of halo tracks in such events ≥ 3
 - average number of all CSCTF tracks including singles and coincidence ≥ 10
- I didn't find events with high CSCTF multiplicity without halo track. Could it pointed that we haven't problem with physics trigger?

List of events with high activity in CSCTF for Run 136066

For 4 ntuples: LS - Lumi Section, Nhalo - Number of halo tracks in event,
NCSCmuons - number of all CSCTF tracks in event, bx - bunch crossing, Nevent - Number of event

01:

LS = 544 orbit = 142436884 Nhalo = 8 NCSCmuons = 20 bx = 2185 Nevent = 65698969

LS = 615 orbit = 161199995 Nhalo = 2 NCSCmuons = 12 bx = 2702 Nevent = 77475178

LS = 366 orbit = 95879049 Nhalo = 3 NCSCmuons = 7 bx = 1 Nevent = 36023732

LS = 366 orbit = 95879055 Nhalo = 7 NCSCmuons = 20 bx = 2186 Nevent = 36023805

02:

LS = 1004 orbit = 263022169 Nhalo = 4 NCSCmuons = 16 bx = 400 Nevent = 138118631

LS = 1004 orbit = 263022173 Nhalo = 4 NCSCmuons = 15 bx = 0 Nevent = 138118673

LS = 1004 orbit = 263022174 Nhalo = 5 NCSCmuons = 16 bx = 200 Nevent = 138118688

LS = 1004 orbit = 263022176 Nhalo = 6 NCSCmuons = 17 bx = 0 Nevent = 138118710

LS = 1004 orbit = 263022176 Nhalo = 5 NCSCmuons = 11 bx = 401 Nevent = 138118715

04:

LS = 679 orbit = 177887180 Nhalo = 6 NCSCmuons = 11 bx = 1986 Nevent = 87838040

LS = 679 orbit = 177887181 Nhalo = 5 NCSCmuons = 13 bx = 1986 Nevent = 87838050

List of events with high activity in CSCTF for Run 136066

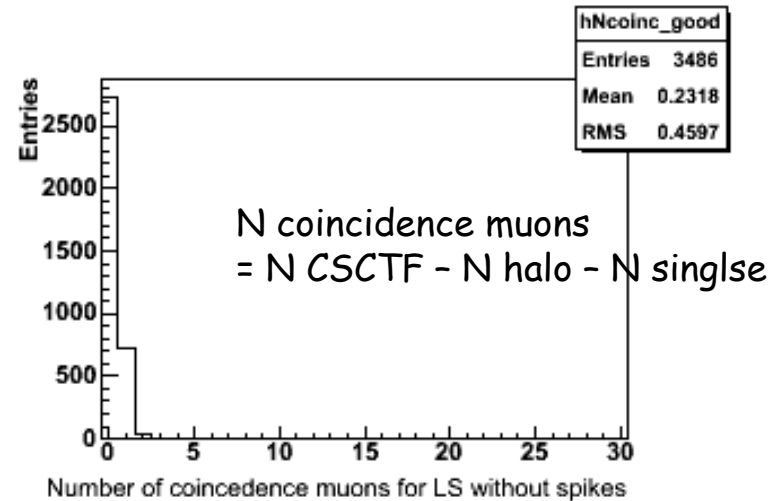
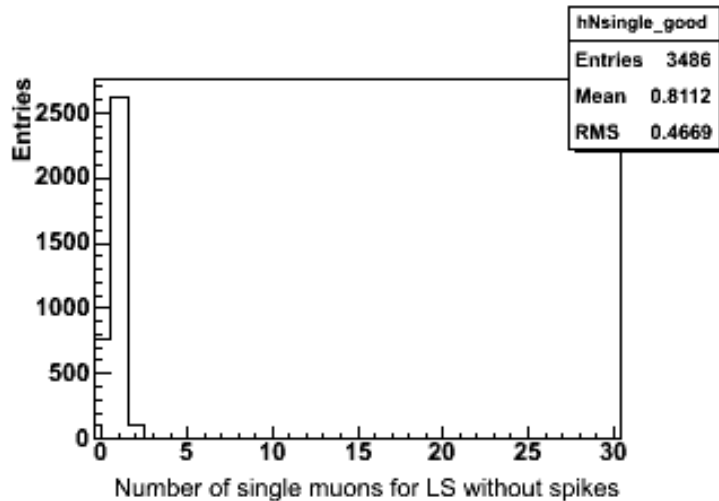
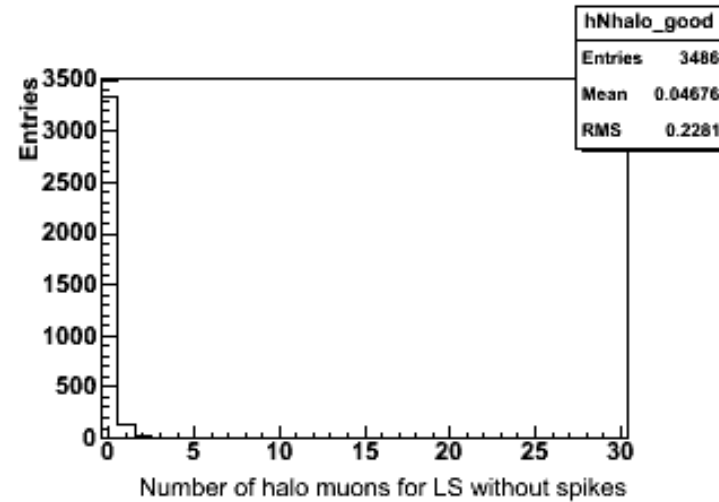
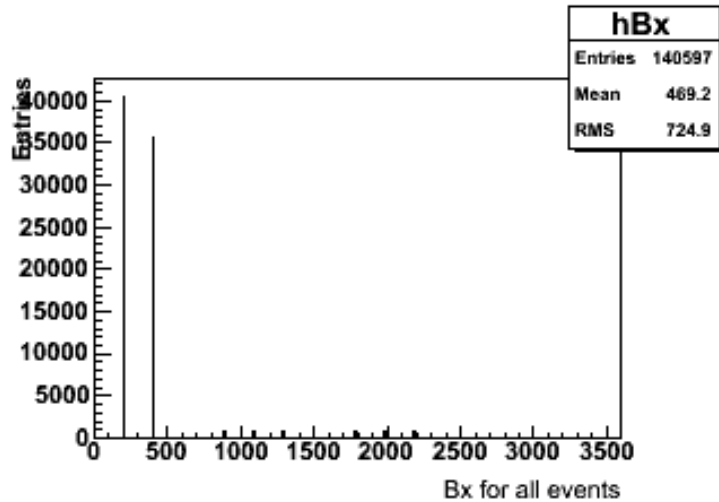
03:

LS = 717 orbit = 187841450 Nhalo = 5 NCSCmuons = 7 bx = 1785 Nevent = 93782556
LS = 717 orbit = 187841451 Nhalo = 5 NCSCmuons = 13 bx = 1785 Nevent = 93782569
LS = 717 orbit = 187841455 Nhalo = 4 NCSCmuons = 12 bx = 0 Nevent = 93782611
LS = 717 orbit = 187841456 Nhalo = 5 NCSCmuons = 15 bx = 0 Nevent = 93782621
LS = 717 orbit = 187841456 Nhalo = 10 NCSCmuons = 18 bx = 201 Nevent = 93782624
LS = 717 orbit = 187841456 Nhalo = 5 NCSCmuons = 13 bx = 399 Nevent = 93782625
LS = 717 orbit = 187841457 Nhalo = 4 NCSCmuons = 11 bx = 0 Nevent = 93782634
LS = 717 orbit = 187841457 Nhalo = 8 NCSCmuons = 16 bx = 2186 Nevent = 93782645
LS = 717 orbit = 187845881 Nhalo = 4 NCSCmuons = 13 bx = 0 Nevent = 93785336
LS = 717 orbit = 187845881 Nhalo = 6 NCSCmuons = 16 bx = 401 Nevent = 93785341
LS = 717 orbit = 187845885 Nhalo = 5 NCSCmuons = 15 bx = 0 Nevent = 93785382
LS = 719 orbit = 188428018 Nhalo = 3 NCSCmuons = 15 bx = 1784 Nevent = 93913849
LS = 719 orbit = 188428019 Nhalo = 4 NCSCmuons = 12 bx = 0 Nevent = 93913855
LS = 719 orbit = 188428020 Nhalo = 4 NCSCmuons = 12 bx = 0 Nevent = 93913867
LS = 719 orbit = 188428023 Nhalo = 8 NCSCmuons = 20 bx = 1786 Nevent = 93913911
LS = 719 orbit = 188428024 Nhalo = 7 NCSCmuons = 13 bx = 0 Nevent = 93913916
LS = 70 orbit = 18116996 Nhalo = 4 NCSCmuons = 7 bx = 1786 Nevent = 4382025
LS = 70 orbit = 18116998 Nhalo = 3 NCSCmuons = 8 bx = 0 Nevent = 4382036
LS = 70 orbit = 18117527 Nhalo = 3 NCSCmuons = 4 bx = 1785 Nevent = 4382319
LS = 70 orbit = 18117534 Nhalo = 4 NCSCmuons = 7 bx = 0 Nevent = 4382367
LS = 319 orbit = 83431473 Nhalo = 6 NCSCmuons = 22 bx = 0 Nevent = 29651999
LS = 319 orbit = 83431473 Nhalo = 7 NCSCmuons = 19 bx = 1786 Nevent = 29652006
LS = 319 orbit = 83431474 Nhalo = 7 NCSCmuons = 19 bx = 0 Nevent = 29652012
LS = 319 orbit = 83431474 Nhalo = 7 NCSCmuons = 17 bx = 400 Nevent = 29652016
LS = 319 orbit = 83431474 Nhalo = 4 NCSCmuons = 21 bx = 1785 Nevent = 29652019
LS = 319 orbit = 83431475 Nhalo = 8 NCSCmuons = 18 bx = 0 Nevent = 29652024
LS = 319 orbit = 83431476 Nhalo = 4 NCSCmuons = 18 bx = 401 Nevent = 29652042
LS = 319 orbit = 83431476 Nhalo = 6 NCSCmuons = 20 bx = 2185 Nevent = 29652048
LS = 319 orbit = 83431477 Nhalo = 10 NCSCmuons = 28 bx = 401 Nevent = 29652054
LS = 319 orbit = 83431478 Nhalo = 9 NCSCmuons = 20 bx = 1785 Nevent = 29652067
LS = 319 orbit = 83431478 Nhalo = 9 NCSCmuons = 20 bx = 2186 Nevent = 29652071

These listed LS
I call "spike LS"

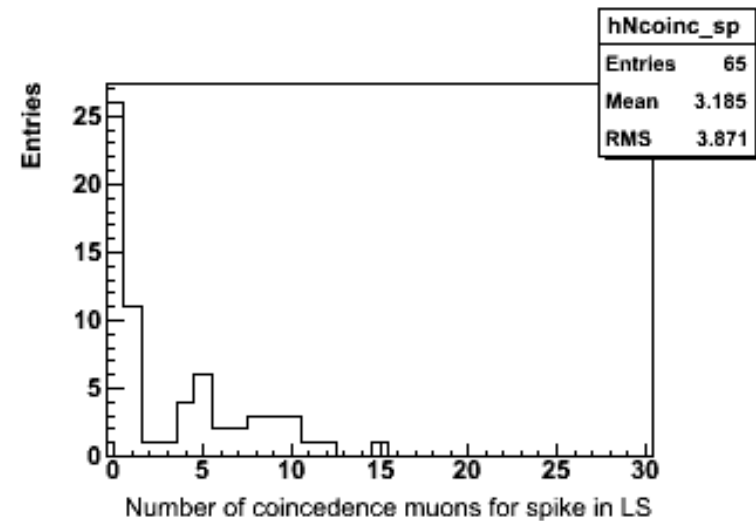
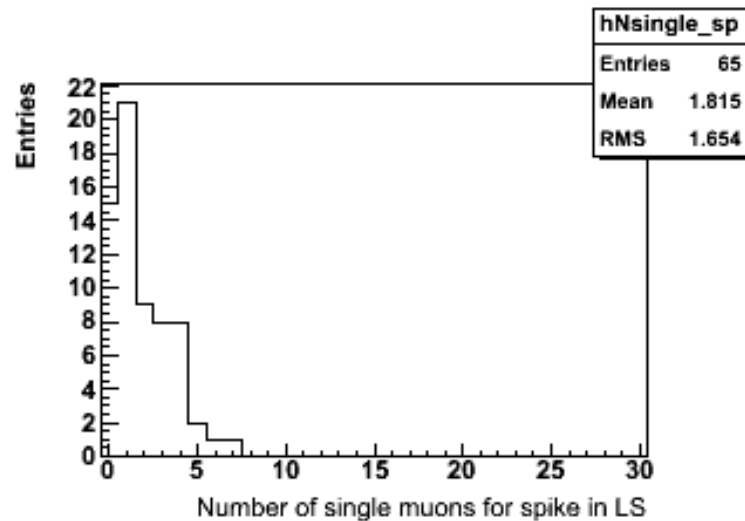
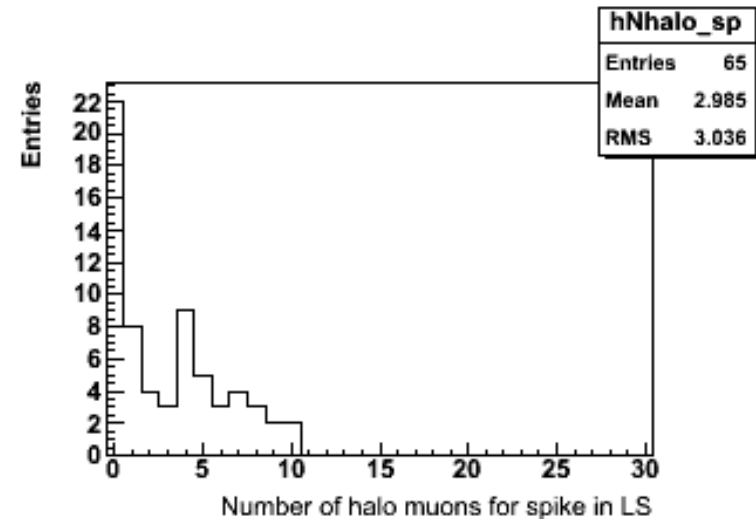
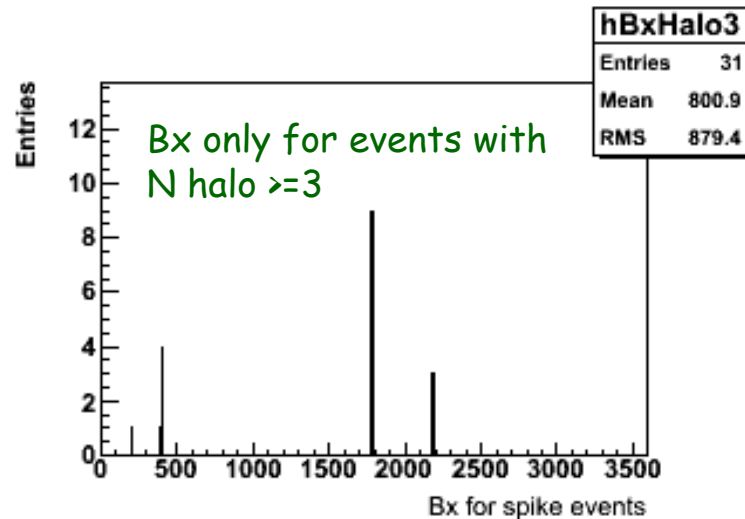
Next 2 slides:
Plots only
for ntuple 03

Run 136066 without spike in lumi sections (LS)



Events without spike in LS has low multiplicity for all CSC tracks found at CSCTF

Run 136066 with spike in LS



Here LS = 717, 719, 70 and 319

Events with spike in LS has high multiplicity for all CSC tracks found at CSCTF 5