Top Trigger Status (upto 0i dataset)

Thanks to Veronica Sorin for the scripts

Triggers in TopNtuple Selection List(1fb-1)

- 758 trigList add MUON_CMUP8_v
- 759 trigList add MUON_CMUP8_DPS_v
- 738 trigList add MUON_CMUP18
- 739 trigList add MUON_CMX18
- 742 trigList add MUON_BMU9_L1_BMU10_BSU_PT11
- 743 trigList add MUON_CENTRAL_JET20_L1_BMU10_BSUR
- 744 trigList add MUON_CENTRAL_JET20_L1_BMU10_PT11
- 756 trigList add ELECTRON_CENTRAL_8_v
- 757 trigList add ELECTRON_CENTRAL_8_L2_DPS_v
- 737 trigList set ELECTRON_CENTRAL_18_v
- 746 trigList add PLUG_ELECTRON
- 747 trigList add JET_20_v
- 748 trigList add JET_50_v
- 749 trigList add JET_70_v
- 750 trigList add JET_100_v
- 751 trigList add JET_20_CENTRAL_v
- 752 trigList add JET_CAL_SINGLETOWER_5_v
- 753 trigList add JET_CAL_SINGLETOWER_10_v
- 745 trigList add TOP_MULTI_JET
- 740 trigList add MET_PEM_v
- 741 trigList add MET_PEM_L1
- 754 trigList add PHOTON_25_ISO_v
- 755 trigList add PHOTON_25_ISO_PASS4_v
- 760 trigList add PLUG_Z
- 761 trigList add Z_NOTRACK_v
- 762 trigList add W_NOTRACK_v

Limited size!
< 32
Now use: 26

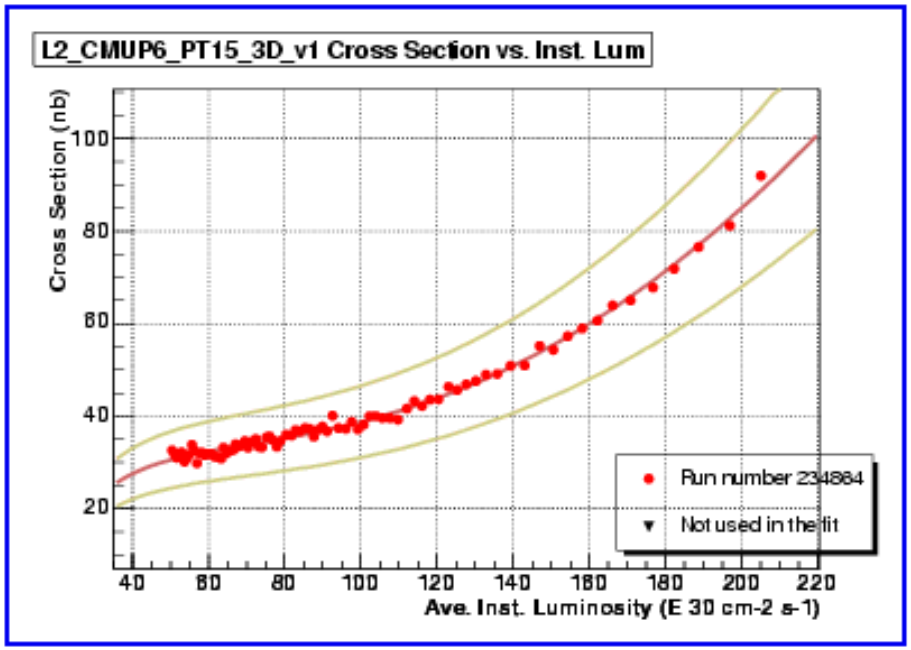
High pT CMUP Triggers

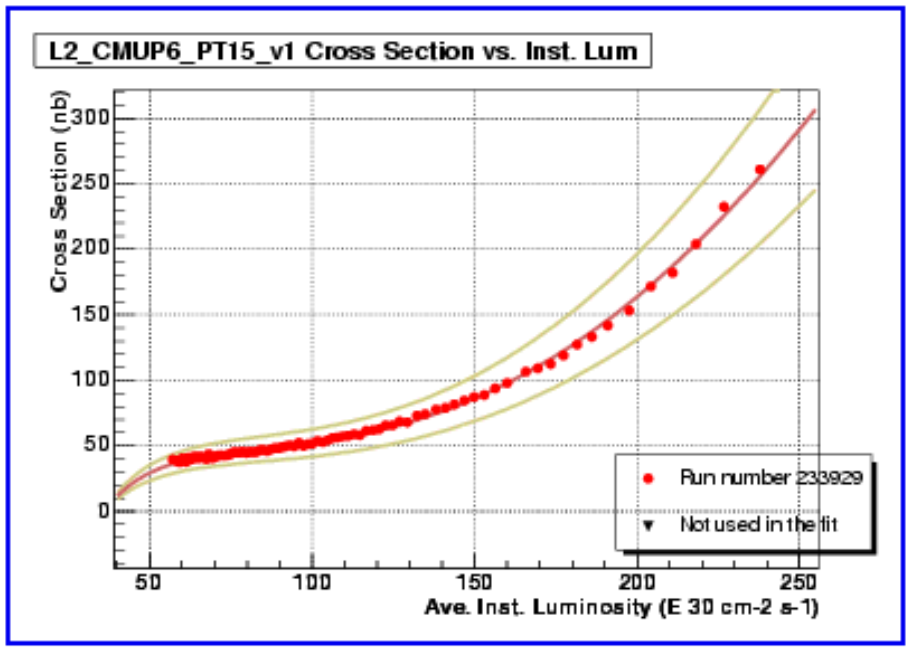
- **Include three trigger path**
  - MUON_CMUP18 [137512:233618]
  - MUON_CMUP18_L2_PT15 [198428:234265]
  - MUON_CMUP18_L2_LOOSE_LUMI_260 [233108:233134]

    (total: 5.3pb-1, no need to add)
- **Add "MUON_CMUP18_L2_PT15_v" in top list**
  - Negligible change in trigger efficiency due to L2_PT15 requirement (Dec02, 2005,joint physics)
- **Change "MUON_CMUP18" to "MUON_CMUP18_v"**
- **MUON_CMUP18_v8** [228629:]
  - New trigger with 3D matching at L2
  - L1 tracking efficiency goes down by 2% (from Veronique)
  - But not affect 0i set

L2 CMUP18 Trigger Rate

The XFT upgrade helps the L2 CMUP18 trigger rate by a factor of 2-3





Both triggers are included in the current trigger table.

High pT CMX Triggers

It is very complicated!

- **Stage I**
  - **MUON_CMX18 [140886:200272]**
- **Stage II**
  - **MUON_CMX18_L2_PT15 [198428:223189]**
  - **MUON_CMX18_L2_PT15_LUMI_200 [222884:226224] (6 weeks run)**
  - **MUON_CMX18_L2_PT15_PS10 [222884:226224]**
  - **(SAME trigger as MUON_CMX18_L2_LOOSE)**
  - **MUON_CMX18_L2_LOOSE_LUMI_200 [226194:233618]**
  - **MUON_CMX18_L2_LOOSE_PS10 [226194:233618]**
- **Stage III**
  - **MUON_CMX18_LUMI_250 [226194:233618] : L2 3D-trk match**
  - **MUON_CMX18_&_JET10 [226194:233618]**
  - **MUON_CMX18_&_JET10_LUMI_270 [233108:233134]**
- **And more changes in recent runs…** (MUON_CMX18_&_JET10_LUMI_270)

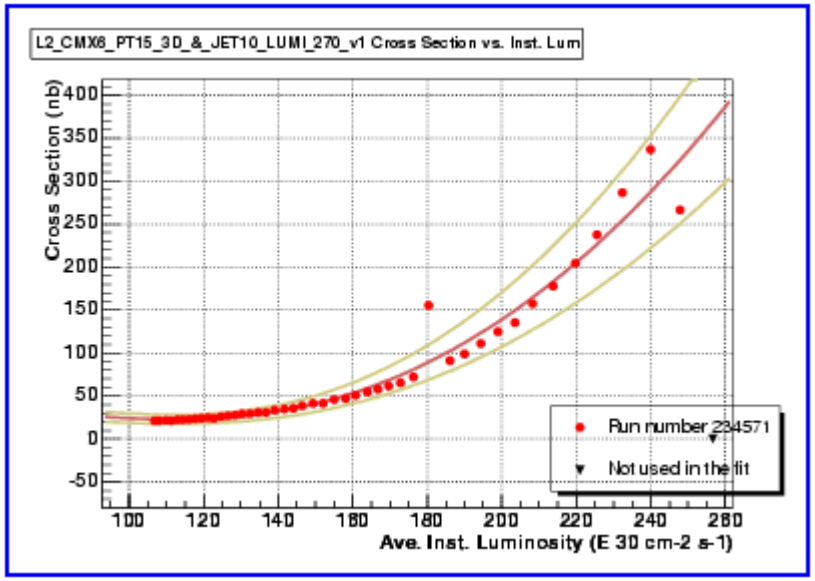
Which trigger path will be selected for top analysis??

High pT CMX Triggers [upto 0i]

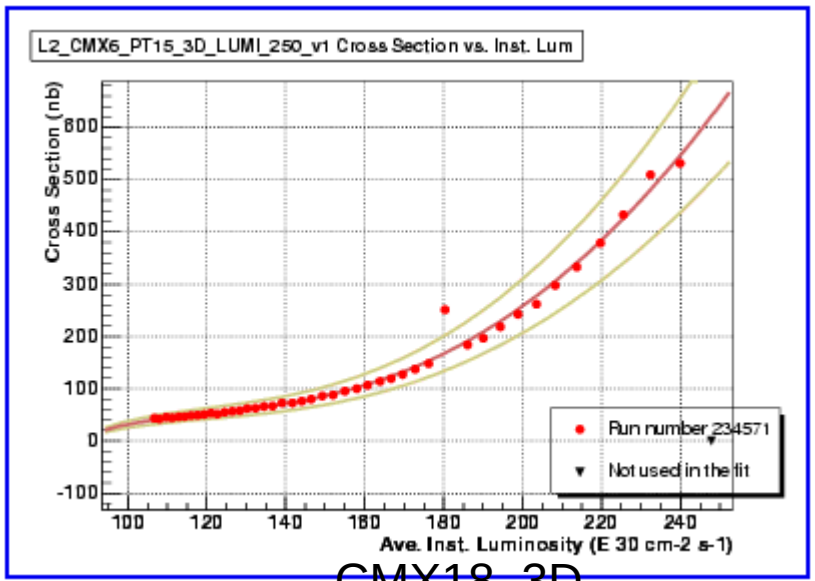
- **For 0i dataset: still being simple**
  - **Just add “MUON_CMX18_L2_PT15_v”**
  - **change “MUON_CMX18” to “MUON_CMX18_v”**

- Stage I
  - MUON_CMX18 [140886:200272]
- Stage II
  - MUON_CMX18_L2_PT15 [198428:223189]
  - MUON_CMX18_L2_PT15_LUMI_200 [222884:226224]
  - MUON_CMX18_L2_PT15_PS10 [222884:226224]
  - MUON_CMX18_L2_LOOSE_LUMI_200 [226194:233618]
  - MUON_CMX18_L2_LOOSE_PS10 [226194:233618]
- Stage III
  - MUON_CMX18_LUMI_250 [226194:233618] : L2 3D-trk match
  - MUON_CMX18_&_JET10 [226194:233618]
  - MUON_CMX18_&_JET10_LUMI_270 [233108:233134]

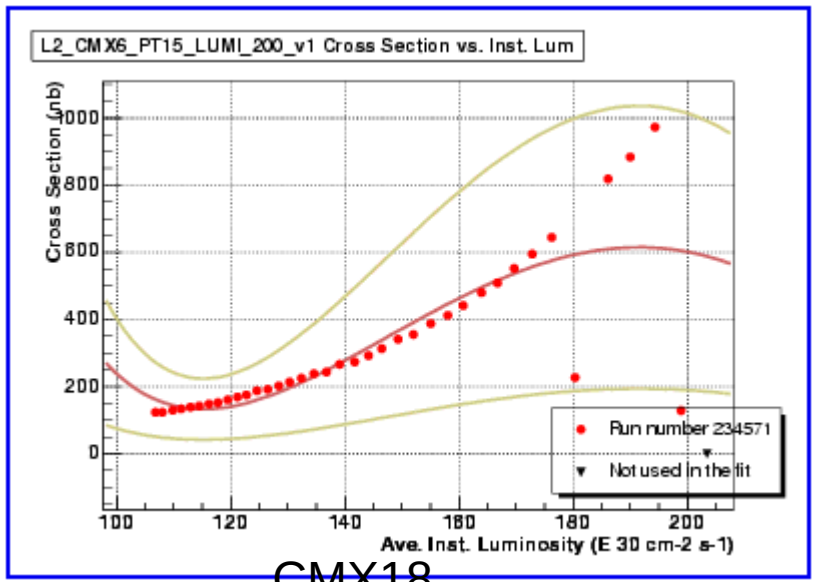
L2 CMX18 Trigger Rate



CMX18_3D_&_Jet10



CMX18_3D



CMX18

High pT CMX Triggers [Beyond 0i]

- Need to study trigger efficiency for
  - **MUON_CMX18_&_JET10** (main trigger for top analysis)
    - 3D matching was added, although no trigger path name change
    - Lumi-enabled recently (270E30)
    - Need to know how calculated integrated luminosity
  - MUON_CMX18_L2_PT15_LUMI_200 has 6-week's runs
    MUON_CMX18_L2_PT15_PS10
    - Only major CMX18 trigger at the time period
    - However lumi-enabled.
- Triggers used only for a short period
  - MUON_CMX18_LUMI_250 [226194:233618]
  - MUON_CMX18_&_JET10_LUMI_270 [233108:233134]

High pT Electron Triggers

- No change

- ELECTRON_CENTRAL_18 [133664:233618]
  - CENTRAL_18_v9 [211118:] XFT_LAYERS=4, may change trigger efficiency!
- PLUG_ELETRON_20[143938:233618]

8 GeV Lepton Triggers

- No change
- MUON
  - MUON_CMUP8 [133664:211079]
  - MUON_CMUP8_DPS [198428:233618]
  - MUON_CMX8 [198428:233618]
- Central Electron
  - ELECTRON_CENTRAL_8 [133664:163383]
  - ELECTRON_CENTRAL_8_L2_DPS [163117:233618]

Other Triggers

- **No change**
  - JET, MET_PEM, PHOTON, Z_NOTRACK, W_NOTRACK

- **Change in BMU**
  - MUON_CENTRAL_JET20_L1_BMU10_BSUR [162519:226224]
    replaced by
    MUON_CENTRAL_JET20_L1_BMU10_BSUR_LUMI_190
    [226194:233618] (not affect 0i data)
  - MUON_CENTRAL_JET20_L1_BMU10_PT11 [162986:209770]
    replaced by
    MUON_CENTRAL_JET20_L1_BMU10_PT8 [209187:211633]

Summary

- **For 0i dataset**
  - Add
    - MUON_CMUP18_L2_PT15_v
    - MUON_CMX18_L2_PT15_v
    - MUON_CENTRAL_JET20_L1_BMU10_PT8
  - Change
    - MUON_CMUP18 to MUON_CMUP18_v
    - MUON_CMX18 to MUON_CMX18_v
- Size of the list will be 29