

# Weekly Report

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6/17/2019

# Status

- Update trigger list ( now including Jpsipi triggers)
  - Keeps 90% signal events
- Generate lumicalc NTuple for each trigger and estimate trigger weight
  - <https://gitlab.cern.ch/yifang/BcJpsiDxAODAnalysis/commit/05db6e87246e1f54829479d8027841be065f26a7>
- Analyze reference channel  $B_c^+ \rightarrow J/\psi \pi^+$
- Estimate acceptance
  - Dump MC truth information (pT, eta, etc.)
  - <https://gitlab.cern.ch/yifang/BcJpsiDxAODAnalysis/commit/8df985d9f44ad51199224ff95ce0e0570a0805ca>
- Update supporting note
  - Fill datasets, triggers, selection, etc.
  - <https://gitlab.cern.ch:8443/atlas-physics-office/BPHY/ANA-BPHY-2018-08/ANA-BPHY-2018-08-INT2.git>

# **BACKUP SLIDES**

Table 1: Triggers used in the analysis for different sub-periods and their corresponding fractions of integrated luminosity during the sub-periods.

| 2015 data, physics_Main, run 266904–284484                       |           |
|------------------------------------------------------------------|-----------|
| Trigger                                                          | Fraction  |
| HLT_mu6_mu4_bJpsimumu_noL2                                       | 0.999928  |
| HLT_2mu4_bJpsimumu_noL2                                          | 0.799727  |
| 2016 data, physics_Main, run 296939–302925                       |           |
| Trigger                                                          | Fraction  |
| HLT_mu6_mu4_bJpsimumu                                            | 0.363558  |
| HLT_mu10_mu6_bJpsimumu                                           | 0.999368  |
| HLT_2mu6_bJpsimumu                                               | 0.654487  |
| HLT_mu20_2mu0noL1_JpsimumuFS                                     | 0.894017  |
| HLT_mu6_2mu4_bJpsi                                               | 0.64169   |
| 2016 data, physics_Main, physics_BphysDelayed, run 302956–311481 |           |
| Trigger                                                          | Fraction  |
| HLT_mu20_2mu0noL1_JpsimumuFS                                     | 0.799626  |
| HLT_mu6_mu4_bBmumux_BsmumuPhi_delayed                            | 0.349642  |
| HLT_mu20_nomucomb_mu6noL1_nscan03                                | 1         |
| HLT_2mu6_bJpsimumu_delayed                                       | 0.988621  |
| HLT_mu6_mu4_bJpsimumu_Lxy0_delayed                               | 0.359082  |
| HLT_mu6_nomucomb_2mu4_nomucomb_delayed_L1MU6_3MU4                | 0.90415   |
| HLT_2mu4_bBmumux_BsmumuPhi_delayed_L1BPH-2M8-2MU4                | 0.142957  |
| 2017 data, physics_BphysLS, run 325713–341649                    |           |
| Trigger                                                          | Fraction  |
| HLT_2mu6_bJpsimumu_L1BPH-2M9-2MU6_BPH-2DR15-2MU6                 | 0.970976  |
| HLT_mu6_mu4_bBmumux_BsmumuPhi_L1BPH-2M9-MU6MU4_BPH-0DR15-MU6MU4  | 0.788403  |
| HLT_mu11_mu6_bDimu                                               | 0.999887  |
| HLT_3mu4_bDimu                                                   | 1         |
| 2018 data, physics_BphysLS, run 348197–364292                    |           |
| Trigger                                                          | Fraction  |
| HLT_2mu6_bJpsimumu_L1BPH-2M9-2MU6_BPH-2DR15-2MU6                 | 1         |
| HLT_mu6_mu4_bBmumux_BsmumuPhi_L1BPH-2M9-MU6MU4_BPH-0DR15-MU6MU4  | 0.853167  |
| HLT_mu11_mu6_bDimu                                               | 1         |
| HLT_2mu4_bJpsimumu_Lxy0_L1BPH-2M9-2MU4_BPH-0DR15-2MU4            | 0.0844957 |
| HLT_3mu4_bJpsi                                                   | 1         |
| HLT_mu11_2mu4noL1_bNocut_L1MU11_2MU6                             | 1         |



