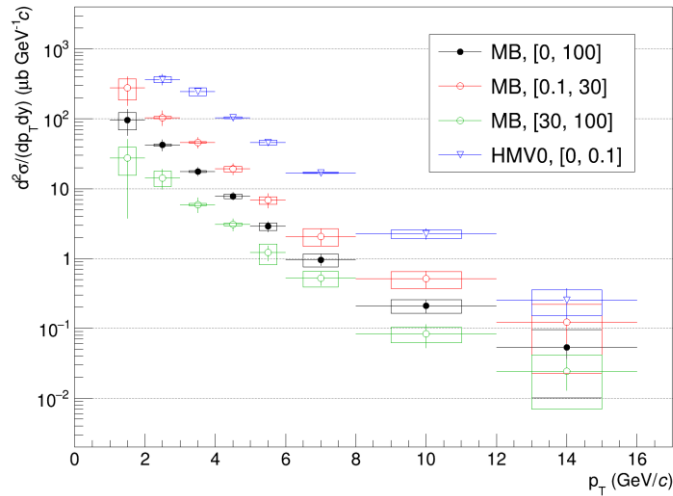# <u>Status</u>   Weekly Ξ^0_c analysis meeting, Nov. 11, 2021, CKim

- **Status & Plan**
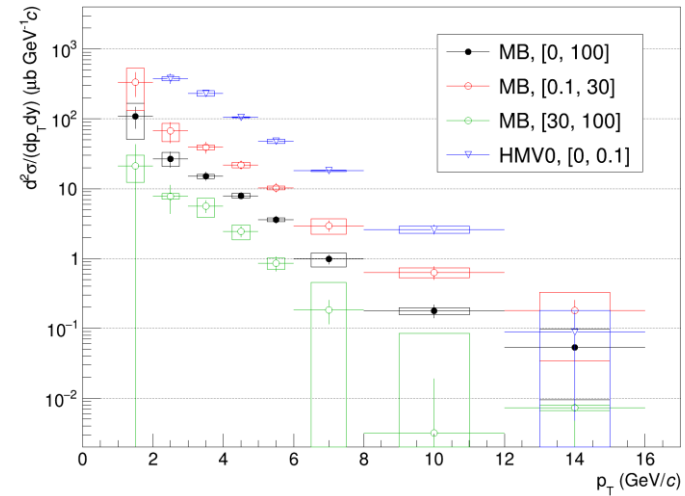
  - A new Lego train output (hereafter Nov. train) is available

    a.   Many thanks to Jinjoo! -_-b (and sorry for pushing you so hard ;;;)

    b.   So far everything (by a few random items and my analysis chain) looks proper and sound

         (* major updates: MV based pileup cut, ANC objects, Debug)

  - Plan to xCheck w/ Jinjoo and Dr. Bok, in upcoming week

    a.   Target: inclusive MB (= equivalent to MB + [0, 100] in my case),

         routine by routine xCheck including final flags & syst. err items

    b.   Planned date: Nov. 16-17 (let's finish this once and for all)

    c.   I'll prepare a Google doc, etc before Nov. 16

  - Personal plan

    a.   Update to D2H (after xCheck, before end of November)

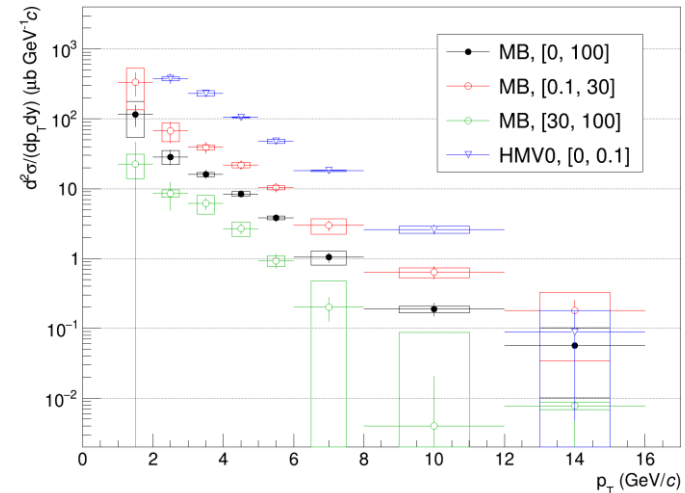   b.   Start analysis note writing soon

Nov. train results   xSec

May train

Nov. train

Nov. train, INEL>0

– Looks good enough

    a.   At the very least, the chain works w/o error ☺

    b.   I assume general fluctuation / irregular points

        (e.g., 8 < pT < 12 at MB + [30, 100])

        can be improved after tune

Nov. train results   # of events by ANC (normalization factor)

- **# of events by *ANC->GetNEventsForNorm()***

    - MB + [0, 100]

        a.   Normal (no INEL>0):   1.794 x 1.e9 / Frac: 0.261 (2016), 0.340 (2017), 0.399 (2018) / Weighted V0 xSec: 57.957

        b.   INEL>0:   1.691 x 1.e9 / Frac: 0.262 (2016), 0.340 (2017), 0.398 (2018) / Weighted V0 xSec: 57.958
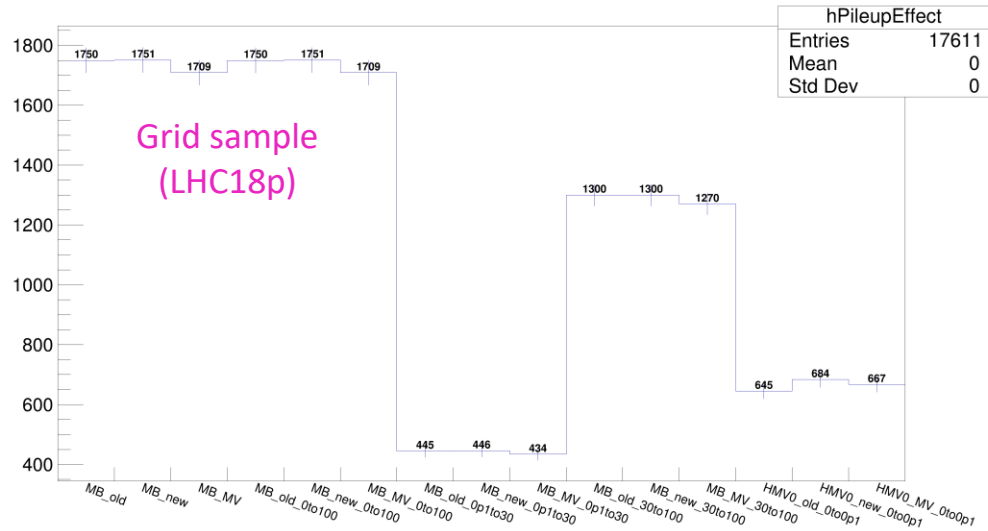
                                                (* |1.691 – 1.794|/1.794 = 0.057)

    - MB + [0.1, 30]

        a.   Normal (no INEL>0):   0.502 x 1.e9 / Frac: 0.262 (2016), 0.341 (2017), 0.397 (2018) / Weighted V0 xSec: 57.958

        b.   INEL>0:   0.501 x 1.e9 / Frac: 0.262 (2016), 0.341 (2017), 0.398 (2018) / Weighted V0 xSec: 57.958

    - MB + [30, 100]

        a.   Normal (no INEL>0):   1.287 x 1.e9 / Frac: 0.260 (2016), 0.339 (2017), 0.400 (2018) / Weighted V0 xSec: 57.956

        b.   INEL>0:   1.188 x 1.e9 / Frac: 0.262 (2016), 0.340 (2017), 0.398 (2018) / Weighted V0 xSec: 57.958

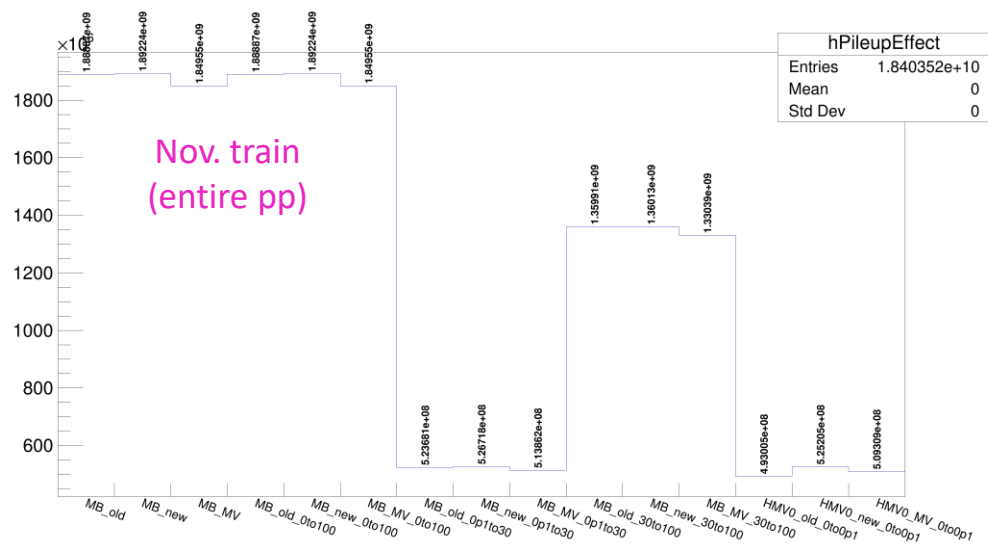   - HMV0 + [0, 0.1]:

        a.   Normal (no INEL>0):   0.499 x 1.e9 / Frac: 0.292 (2016), 0.385 (2017), 0.324 (2018) / Weighted V0 xSec: 58.012

        b.   INEL>0:   0.499 x 1.e9 / Frac: 0.292 (2016), 0.385 (2017), 0.324 (2018) / Weighted V0 xSec: 58.012

Nov. train results   Pileup cut effect

- — # of events accepted by:
  - a.   Trig + Mult. Percentile
  - b.   Pileup cut
    - b-1.   Old: Fixed SPD N contributor
      (conventional cut)
    - b-2.   New: Varying SPD N contributor
    - b-3.   MV: multi-vertex
      (official method at the D2H)

- — Comparing patterns
  - a.   Top: LHC18p only by Grid
    Bottom: whole 2016-2018 pp 13 TeV, Train
  - b.   Both plots are results by same
    AliAnalysisTask… , after update
    (cannot guarantee the code's sanity itself)

Nov. train results   BUG! (debugged before Nov. train run)

GitHub update log

- A bug related to event-wise cut info:
    a.   Wrong trigger and multiplicity could be assigned for a track
    b.   Induced in September 2020 (it's likely Jinjoo also affected by this bug…)
    c.   Debugged in Nov. train run (checked w/ new output)   **LAST SLIDE**