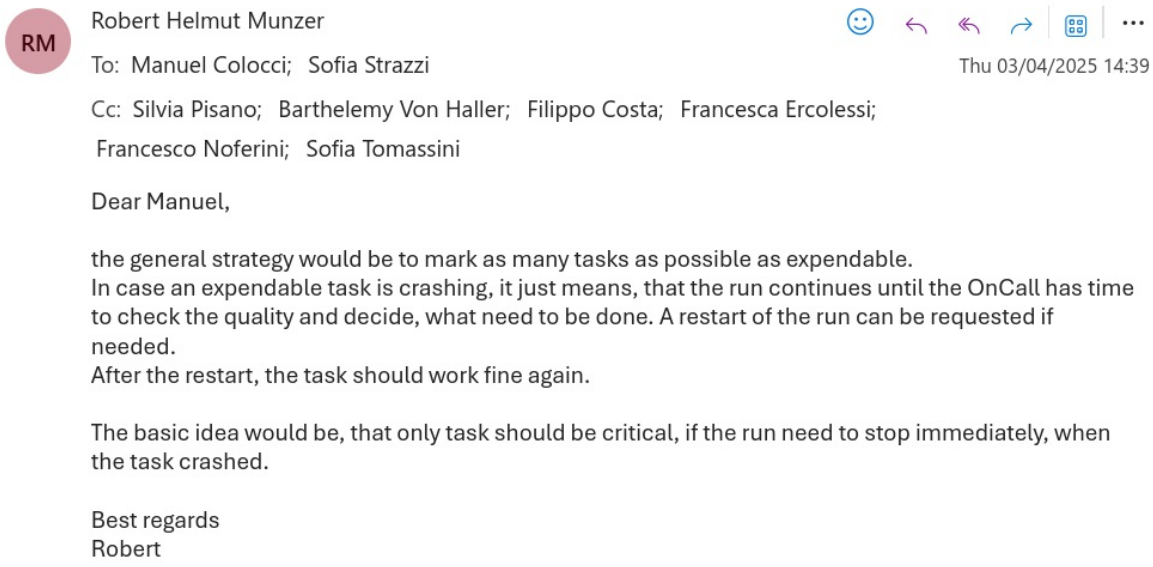
TOF QC Coordination meeting 6/05/2024

General news

QC sincrono

- Expendable tasks



RM

Robert Helmut Munzer

To: Manuel Colocci; Sofia Strazzi

Thu 03/04/2025 14:39

Cc: Silvia Pisano; Barthelemy Von Haller; Filippo Costa; Francesca Ercolessi; Francesco Noferini; Sofia Tomassini

Dear Manuel,

the general strategy would be to mark as many tasks as possible as expendable.
In case an expendable task is crashing, it just means, that the run continues until the OnCall has time to check the quality and decide, what need to be done. A restart of the run can be requested if needed.
After the restart, the task should work fine again.

The basic idea would be, that only task should be critical, if the run need to stop immediately, when the task crashed.

Best regards
Robert

- Plans per YETS
    - luminometro (Nhits/readout efficiency in funzione del tempo) --> modificare Post Processing Lost Orbits con fattore di scala arbitrario e possiamo correggere per accettanza usando la HitMap
    - Diagnostics calib task
        - task was tested locally and crossed checked with Francesco's macros + we are ready to test with staging (runned a standalone last week)

QC asincrono

Our sheet:
https://docs.google.com/spreadsheets/d/1z0no8X0s9R5mOGfR3BeNnx4RgYlBkyf9aVxJElQFIjE/edit?gid=0#gid=0

To be updated form latest Elena emails:

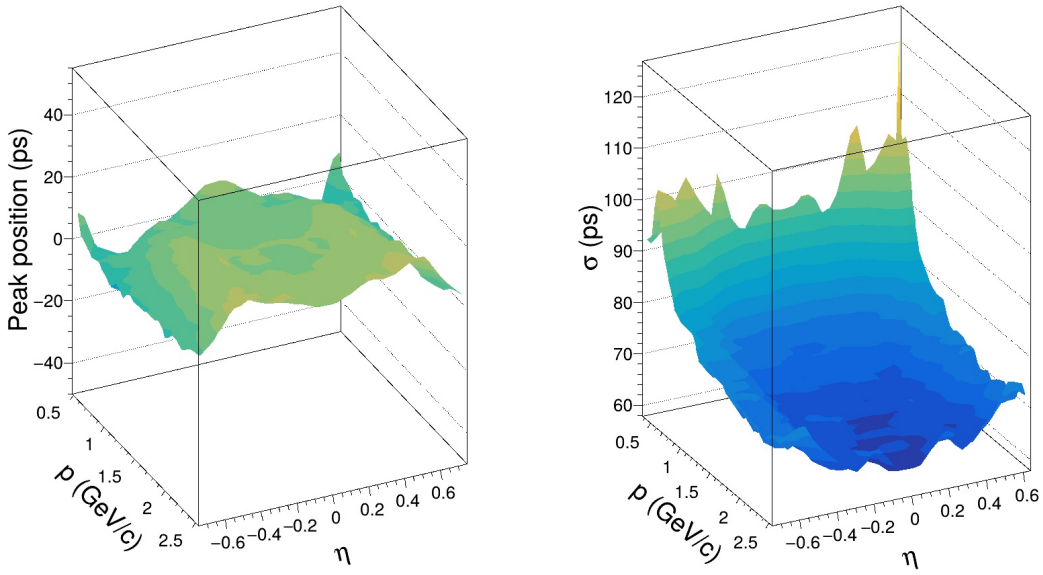
1. Data

- apass4 of 2023 pp periods with low B (O2-5897 https://its.cern.ch/jira/browse/O2-5897)
  --> Flag RCT !!!
- apass5 of 2023 PbPb periods (O2-5917 https://its.cern.ch/jira/browse/O2-5917)
  --> new apass5 processing started on May 1st (ongoing)
- apass5 of LHC22e (O2-5866) https://its.cern.ch/jira/browse/O2-5866
  --> report on Jira and RCT

2. MC

Calibration

- Parametrizzazione della risoluzione sugli expected times in analisi
    - definita una procedura per estrarla dalle TPC timeseries (vedi [PR-TOFCommisioning (https://github.com/alicetof/Commissioning/pull/107)](https://github.com/alicetof/Commissioning/pull/107))



Esempio per pioni (da vecchio apass5)

Simulation/reconstruction

- FT0 fix in digitization -> **DONE**
- nuovo apass5 **running** con migliori calibrazioni TPC e fix per il TOF (vedi PID)
    - Issue: different shape of eta distributions wrt apass4, less flat and with dips for |eta|>=0.8 → affected: TPC, TPC-ITS eff., chi^2 → fixed by new derivative maps

TOF AO2D

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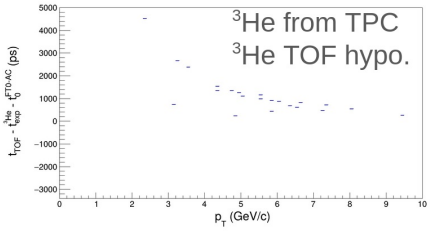
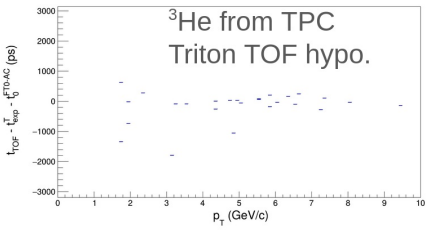
PID

- Scoperto problema sugli expected times per tracce di carica due (He). Fix di Ruben dentro il nuovo apass5 che sta girando
    - il problema era dovuto al fatto che nel calcolo degli expected time veniva usato *p* invece di *p/z* a seguito di un update del metodo (ovvero ad un certo punto il metodo ha iniziato a ritornare *p/z* x la carica misurato dalla TPC). Soluzione: Ruben ha definto un nuovo metodo che ritornasse solo *p/z* per usarlo nel calcolo degli expected time.
    - conseguenza: apass4 2023 Pb-Pb e apass1 2024 Pb-Pb: no matching per He4 (no impatto per He3 a patto di non usare gli expected times)

Issue with He in Pb-Pb reco





When selecting ^{3}He with TPC we see a bad behaviour of t_{exp}.
^{3}He instead matches perfectly triton expect times.
This is due to an inconsistency in the t_{exp} calculation when track charge is updated by TPC to 2 since p_T is used in addStep instead of p_T/Z → Ruben prepared a fix
https://github.com/AliceO2Group/AliceO2/pull/14220

Consequence: since triton is the slower hypothesis accepted (higher m/Z) in TOF matching, indirectly we are cutting out all ^{4}He.

- Da timeseries di ultimo apass5 con fix di Ruben -> He3 allineati a zero