

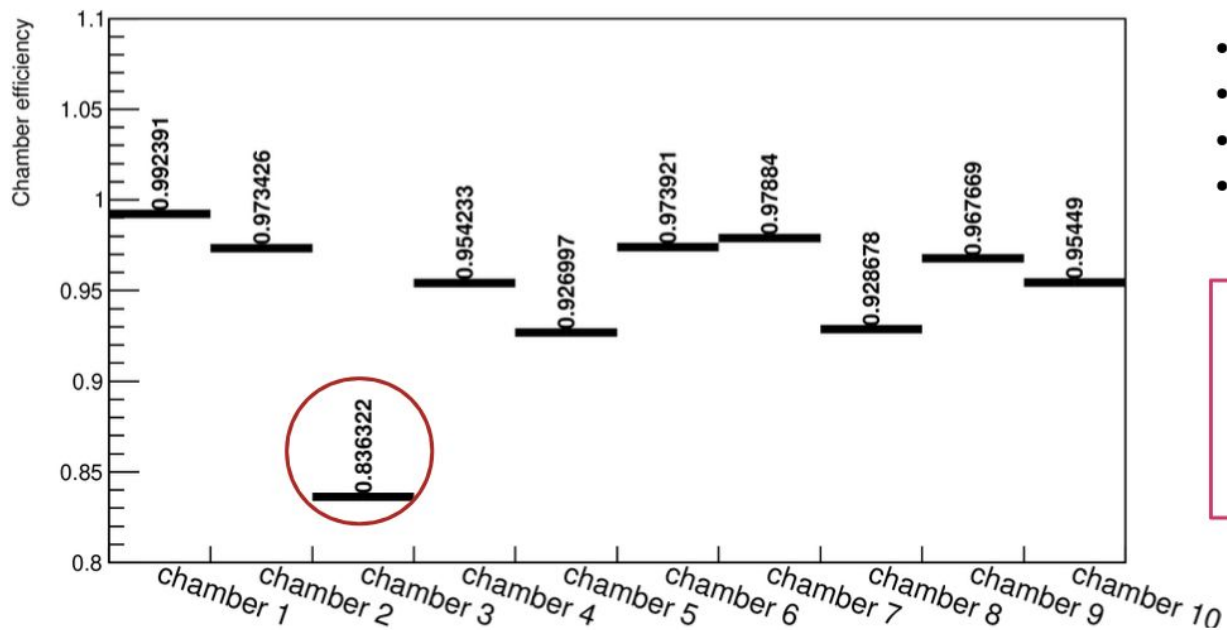
Tool for evaluating the MCH tracking efficiency systematics

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- First version of the code committed in O2/DQ to run on pp data/MC (some functionalities still under development): <https://github.com/AliceO2Group/O2Physics/pull/3708>
- Main outputs:
 - MCH tracking efficiency per chamber (integrated and in bins of eta, p_T and phi of the tracks)
 - MCH tracking efficiency per station and for the full MCH
 - Runs both on data and MC (only ideal MC available at the moment)
- Outputs of the task compared and in agreement with online QC results
- The task is not meant to be run by each analyzer for each analysis but it is planned to organize a service task as in Run 2 to compute the MCH tracking efficiency systematic per data sample

Examples of the task outputs

Results from pp collisions

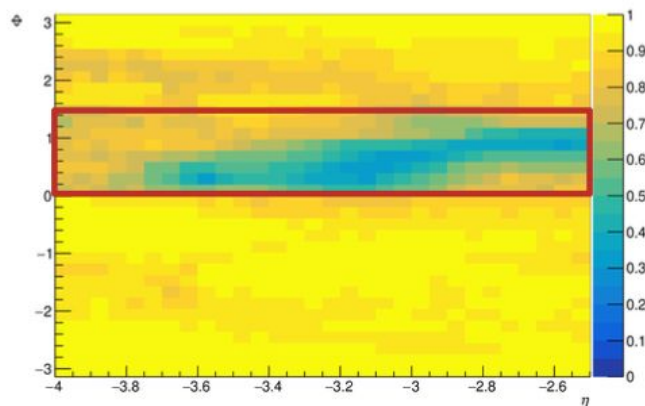


- pp collisions at $\sqrt{s} = 13.6$ TeV
- Run number 523306
- Data taken on 14/08/2022
- Interaction rate 500 kHz

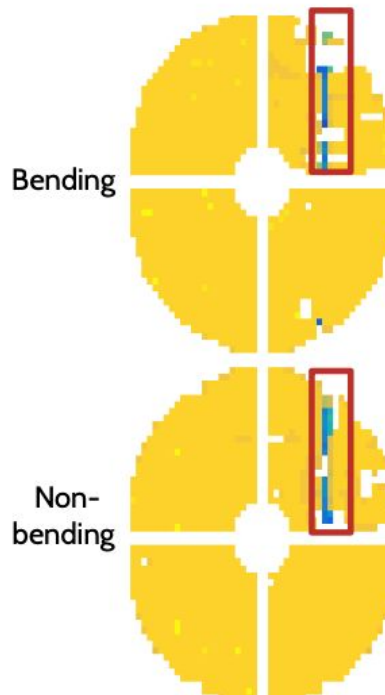
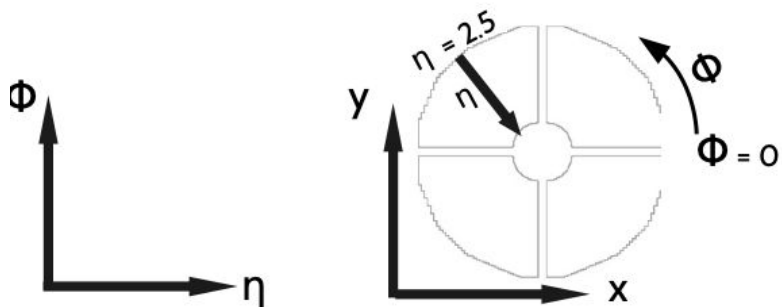
Chamber efficiency

$$\epsilon_i = \frac{N_{i-j}}{N_{i-j} + N_{0-j}}$$

Validation of the task outputs and comparison with online QC



Chamber 3 tracking efficiency



Pseudo-efficiency of
chamber 3 from quality
control