

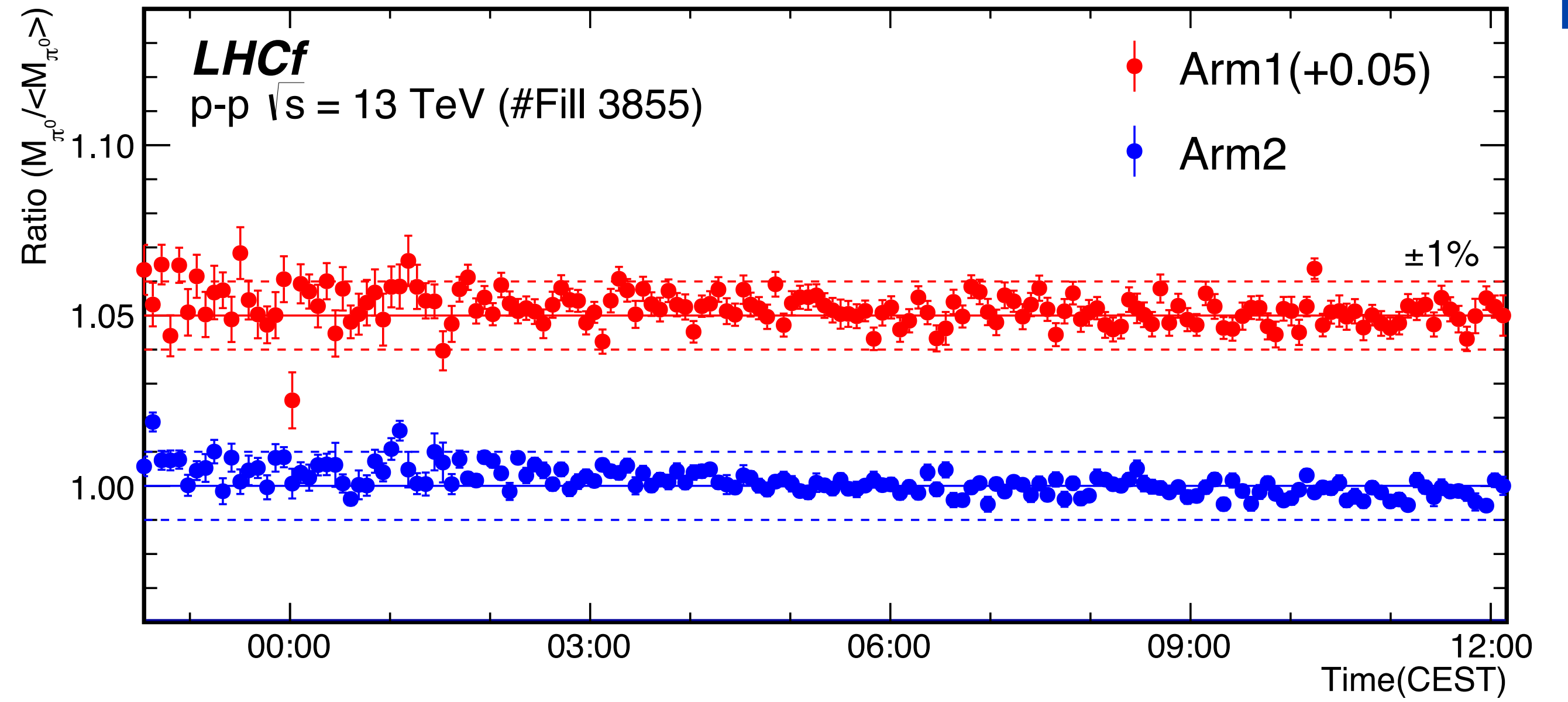
**Discussion**

**In LHCf analysis workshop**

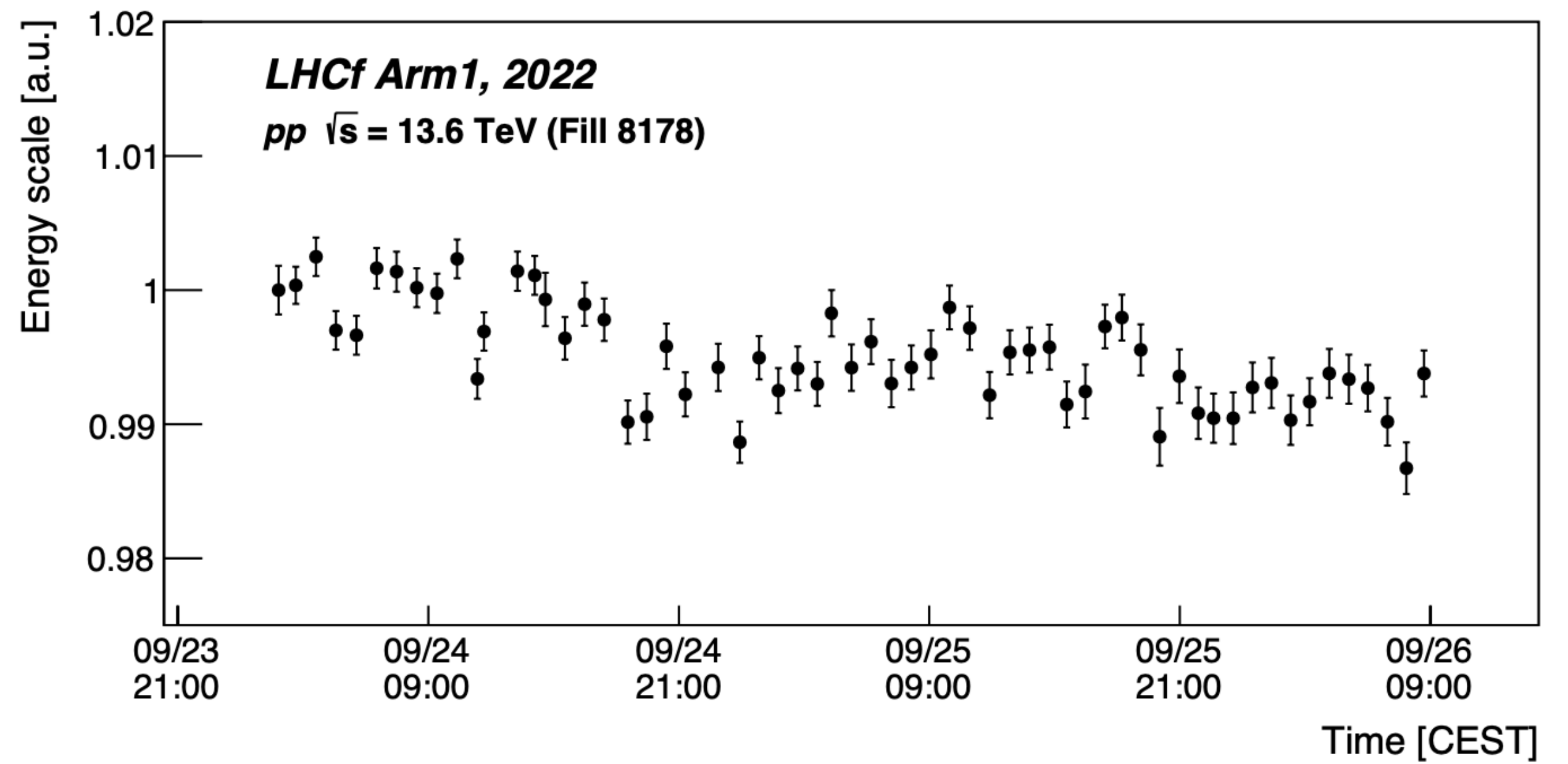
# Complete the calibration for Op2022

- Missing in Arm1
  - Conv. factor for deeper layers.
    - SPS 2023 does not work for Arm1 (we do not know why...)
    - Using Had. Shower events of LHC 2022 data
- Calibration for ATLAS-ZDC **Low priority**
  - Pedestal subtraction is manually applied by (nominal gate) - (delayed gate)
  - Gain calibration
- Possible additional calibration
  - Time dependence of energy scale factors.
  - Position dependency of energy calibration, tested by SPS

Op 2015



Op 2022



# Pi0 analysis

## ■ Arm1 status

- Used the old library
- Missing 5mm high results



Re-do the analysis based on Alessio's code. It helps not only the implementation but also unity criteria.

## ■ Arm2 status

- Based on the new library and reduction data
- Both nominal and 5mm high position.

## ■ Missing commonly

- Unfolding of spectra
- Combine results btw. Arm1 and Arm2.

# Other works related to the new library

- Implementation of photon multi-hits in Reduction
  - Requested by Giuseppe.
  - Structure are ready (photon information are all vectors for #hits).  
How to mix the outputs of single photon and pi0 algorithm.
  - No valuable of # hits in photon vectors of Level3
- Update for MC
  - Trigger and status flag implementation.
    - No bptx bit in MC -> induce additional flag in Reduction. —disable-bptx-cut.
  - Unify fill and subfill treatment for MC
    - 2022 : both fill and subfill required to negative only in Reduction
    - 2015 : only subfill is negative.
- Documentation
  - Procedure / valuables / flags of the implementation

# Other works related to the new library

- Strategy of modification of base classes
  - Lvl\* : addition or modification impact on the readout of old reconstruction results.
  - Reduction : addition of new valuables does not effect the old results