# TOF manual calibration

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# TOF manual calibration: output

- Manual calibrations from CPass1 output
  - Channel-by-channel offset → ParOffline
    - Every period, ~100 entries/channel (~160000 channels)
  - Problematic channels (problems with HW, seen in measured times) → Problematic
    - Every period, ~100 entries/channel (~160000 channels)
  - Time slewing → ParOffline
    - Every year, ~10k entries/channel (~160000 channels)

Used in reconstruction

Credits: C. Zampolli, https://indico.cern.ch/event/228415

# TOF manual calibration: workflow

- Performed typically over one LHC period due to the high statistics required for the channel-by-channel calibration

- How it works
  a) a task runs over the ESDs from cpass1 to produce a tree (TOFCalibTree.root)
  b) Trees are merged over a period
  c) The merged tree is the input for a macro which extracts the residual (wrt cpass1) offsets channel-by-channel (if statistics is sufficient) and the list of problematic
  d) A manual update of the OCDB is requested if necessary

- Moving toward automatization:
  – Since 2015, the task that we used to run by hand (based on CPass1 ESDs output), has been added to cpass1 to produce the trees used for the manual calibration

- Time it takes (if nothing else is in the way)
  – 3 days to run the merging + prepare the calibrations (with some safety margin)

- Extra ingredients needed, that are not currently there
  – Merging trees run by run (now done by hand)
  – Merging trees over period (now done by hand)