

# Usage of official tools ?

- most common answer:
  - manually included and manually updated
  - in particular: OTX maps need to be checked by analysis users (look in afs dir) ... “painful to always get latest OTX”
- “Better would be svn package and recommended tag (clearly documented somewhere that is well advertised). The jet group did this now for the JES code.”
- one group: not using official tools --- **!?!?**

- PAT improvements very desirable :)

# Listing of analysis tools

- CP Analysis Tools:
  - JetUncertaintyProvider, Jet CP
  - OQCheck (OTX), Egamma CP, need up-to-date maps from AFS
  - robust isEM definition for D3PD, Egamma CP
  - EMJESfix, Jet CP
  - GoodRunList : tool provided by DataPrep, need up-to-date xml files (from web-interface)
- Non official code snippets (non-exhaustive list):
  - fix MET for medium vs robustMedium electrons
  - fix MET for mis-measured high-pt muons
  - Calculation of various event variables, e.g. transverse sphericity, transverse mass, etc.
- Tools to deal with uncertainties:
  - JES : JetUncertaintyProvider tool, propagate into MET by hand (then also in all derived variables)
  - JER : by-hand random smearing, propagation as above
  - Lepton energy scale/resolution : by-hand solutions
  - Trigger ?
  - Generator uncertainties : comparison of various generators; vary scale and PDFs (standard solutions ?)
  - B-tagging : BtaggingCalibrationTool (used in Top/SUSY/.. analyses), gives scaleFactor to re-weight MC, provides  $\pm 1$  sigma uncertainties

# What PAT could improve ...

- Provide and maintain an up-to-date production cache with all svn tags for all tools, maps, etc.
- Centralized listing & documentation of all official tools & recommendations. See list on previous slide.
- In addition
  - Recommendations/Examples how-to access meta-data
  - official analysis primary vertex requirements
  - official tool/recipe for pileup re-weighting for MC (& a related systematic)
  - Use of InsituPerformance to store and apply data derived efficiencies (offline and trigger)
  - Recommendations/Examples for no-events-lost checks (AMI / GRL), and duplicated events
- ...