# Summary of the Analysis Model Forum

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DESY ATLAS Meeting
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# Introduction

- Last episode of the "Analysis Model Forums" at CERN last week
  - 2-days meeting run by D. Costanzo,
    I. Hinchcliffe, S. Menke
  - recommendations about our analysis software will follow up soon

See: http://indico.cern.ch/conferenceDisplay.py?confId=17248

# The main topics

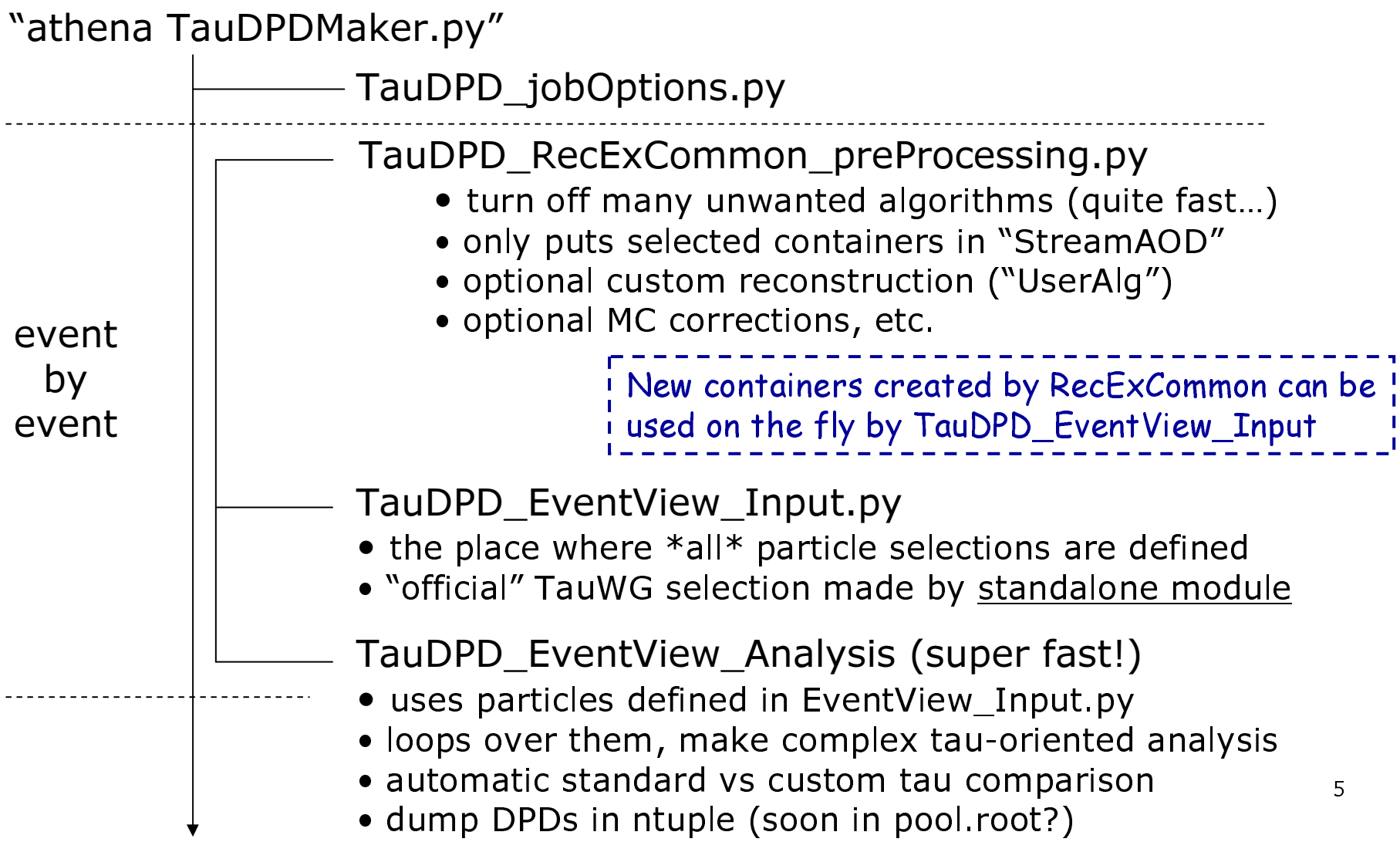
- Derived Physics Data (DPD)
  - what format? → pool.root
  - what content? → "distilled AOD" with *simple* UserData
    - ~15 group-specific different DPD contents
    - missing: UserData persistency
  - which DPD-maker tool? →*simple* Athena tool
    - not EventView!
    - missing: thinning tool, composite particle, overlap removal
- EventView
  - what's his role (if any)? →complex analyses reading the DPD
  - how can it be improved?
    - rewrite specific parts, explicit PAT support
    - long "EV feedback" session… (black box? or not?? maintainable?)
- AthenaRootAccess (ARA)
  - what's the status? →more or less completed
  - how to share tools in Athena-ARA-EventView?
  - what should ARA be (and not be) used for?

# DPD making for reconstruction studies

- TauDPDMaker prototype well received at the AMF
  - already used by Björn for tau performance studies
  - will be used to prepare Sylvie's analysis during FDR
- Use cases:
  - validation of tau ID on data/MC (dijets, $Z \rightarrow \tau\tau$, $W \rightarrow \tau\nu$)
  - core development of tau ID algorithms
- Main features:
  - Custom configuration of RecExCommon and EventView
  - Input: ESD
  - Output: customized pool.root and/or ntuple
  - Tau reconstruction (partially?) re-doable on pool.root output
  - RecExCommon containers usable "on the fly" by EventView

See: https://twiki.cern.ch/twiki/bin/view/Atlas/TauDPDMaker

# TauDPDMaker execution flow



# TauDPDMaker output

- TauDPD_ntuple:
  - ~230 variables (few more planned): 4kB / evt
- Custom pool.root output file:
  - Minimal (EventInfo, Tau, ConeJet, Track): 15kB / evt
  - …add truth: 47kB /evt
  - …add TauExtraDetails & conversions : 60kB /evt
  - …add topoclusters, Tile & AOD cells: 90kB /evt
  - …add complete tracks: 150kB /evt
  - …add all calorimeter cells: 410kB /evt
    - Standard AOD: 295kB /evt
    - Standard ESD: 950kB /evt
- Note: current TauDPD_EventViewAnalysis only needs the minimal(+truth) content.



*Event size determined from only 20 $Z \rightarrow \tau\tau$ events! Just look at the *relative* numbers…