Remarks on muons from Ketevi:

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Greetings,

   During software and muon weeks in December, we propose a solution
for the muon ESD and AOD. The implemention was done in 9.4.0, tested and
debugged recently. Here is what is avaible.

   - For the ESD: CombinedMuon.h, to be used for high Pt and low Pt
muons (different collections), to handle the association between various
tracks and also to carry the colorimeter information. The CVS package is

   Reconstruction/MuonIdentification/muonEvent

The builders for the low pt and high pt ESD CombinedMuon, implemented by
Michela for Muid, are in

   Reconstruction/Muid/MuidParticleCreator

   - For the AOD. The muon AOD has been modified substantially, so as
to construct the AOD muon from the ESD CombinedMuon, and to add the
navigation from AOD muon to the ESD CombinedMuon. The CVS package is

   PhysicsAnalysis/AnalysisCommon/ParticleEvent

The builder of AOD muon reads in both collections of low and high pt ESD
CombinedMuon and constructs one collection of AOD, removing the
ambiguity/overlap between the 2 collections - similarly to was done for
the electron AOD. This implementation has been done by Stefano. The CVS
packages are in:

   PhysicsAnalysis/MuonID/MuonUtils
   PhysicsAnalysis/MuonID/MuonAlgs

   - There is also a muon isolation tool package in

   Reconstruction/MuonIdentification/MuonIsolationTools

It can be used for track isolation, at the ESD level or the AOD since the
TrackParticle collections are available in both data formats. There is
also an option for calorimeter isolation - this requires the knowledge of
CaloCell energies within some isolation cone and the energy loss my the
muon the calorimeter, thus the calo isolation is only available at the ESD
level on the CombinedMuon.

   - The validation of the muon ESD and AOD is in progress.

   - We've also added to the ESD and the AOD the TrackRecord
collection. The TrackRecord gives the MC Truth muon track parameters at
the muon spectrometer, thus useful for the validation of MOORE.

   - What to expect by 10.0.0: the muon isolation tools mentioned
above will be used to calculate the calo isolation energies in various
cones, default = 0.1, 0.2, 0.3, 0.4, 0.4, 0.5, 0.6, and 0.7 and the ESD
CombinedMuon will filled with this information. During the making of the
muon AOD, this information is simply copied into the AOD, thus available
at the analysis level.

   - What we expect in the near future: The equivalent collections of
CombinedMuon (ESD) and Muon (AOD) for Muonboy/STACO. The muon ESD and AOD
data classes and the isolation tools are the same for Muid and STACO.
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-- DerSchrecklicheSven - 10 Feb 2005

This topic: Main > MuOns
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