

ILD Performance

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- Event based
 - FlavourTag (Taikan & Masakazu):
 - Efficiency vs rejection rate, $Z \rightarrow qq$, $ZZZ \rightarrow qqqqqq$, jet-based
 - B vs light, b vs c
 - C vs light, c vs b
 - Maybe ttbar?
 - VertexFinding (Sviatoslav & Roman):
 - Efficiency to find B / D vertex as function of
 - Number of charged particles
 - Distance from IP
 - Number of correctly assigned tracks
 - „2D colour matrix“

- Event-based
 - Tracking (Yorgos, Tino)
 - Efficiency and bad track rate in $t\bar{t}$ bar, $mumu$ vs p , θ
 - With ≥ 4 Si hits ? Or ≥ 4 in VXD ? In innermost
 - Particle ID in jets (Masakazu)
 - same sample as flavour tag
 - Efficiency / fake rate vs momentum, θ , ...
 - Same as single particle PID benchmarks
 - Jets (Bono & Cambridge group, Lan)
 - Invariant mass of uds dijets
 - Jet energy scale
 - Residual between
 - True and reco photon energy
 - True and reco neutral hadron energy
 - True and reco charged PFO energy
 - „PFO finding efficiency / fake rate“: but based on PFOs

- Single particle based
 - Particle ID: (Masakazu)
 - separately for dE/dx based, cluster-based, total
 - particles: e, mu, pi, p, K,
 - 1d histograms / matrix with probability to identify true type i as reco type j for fixed momentum: 0.5 GeV, 1 GeV, 2 GeV, ... 10 GeV
 - e/pi separation vs p etc
 - Photons: (Daniel?, Graham)
 - Efficiency / purity vs energy, theta
 - Energy resolution, x,y,z resolution of cluster position, intrinsic cluster direction
 - Number of reco photons per true photon,
 - Pi0: Graham
 - „same as photons“
 - Mass resolution
 - Taus ????: (Hieu, Taikan, Mikael)
 - „same as photons“
 - Decay mode separation
 - V0, Conversions, J/Psi
 - Same as photon
 - Mass resolution

– Tracking (Yorgos & Tino)

- Single mu: resolution(d_0 , pt) vs momentum, theta
- Single mu efficiency vs p, theta, d_0
- Pulls for dE/dx

– FWD Tracking: included

- BeamCal
- LumiCal
- Muon system ;-)

- General: put 4vectors / stdhep on grid and include in ILDPerformance descriptions