**Benchmark Performance & Analysis**

Sub Detector – level:

// Differential: Differential V.S. Polar angle & Energy

**Vertex:**

Differential Eff,

Intrinsic spatial & time (optional) resolution,

Differential Occupancy (with beam background + MDI studies).

**Tracker:**

Differential Eff.

Differential Resolution of 5 track parameters.

Differential Pid Capability: eff\*purity of Kaon id @ Z pole

Sep. power

On 3 prong tau decay @ Z pole.

**Calo:**

Intrinsic energy resolution: wi/wo Clustering – Hit collection efficiency.

Shower Profile & Pid potential (e, mu, hadron).

Differential Eff.

Di-particle separation power.

Di photon;

Pion + Photon;

**ToF: Time resolution & Efficiency.**

Dedicated:

LGAD,

Multi-PRC

Integrated with Calo.

**Muon: Efficiency & Noise Rate.**

**Global:**

BMR

Jet Origin id.

Particle identification. Differential Efficiency & Purity (optional)

Physics Analysis Benchmarks.

1, H->SS @ 240 GeV

2, Vcb from W decay @ 240 GeV and W threshold (optional)

3, alpha-s from Z->Tautau @ 91.2 GeV

4, vvH, H->bb @ 360 GeV

5, Bs->DK @ 91.2 GeV, for CKM angle measurements (Gamma\_s, Gamma\_sb, etc)

Relies on Jet Origin id, Kaon id, Tracking.