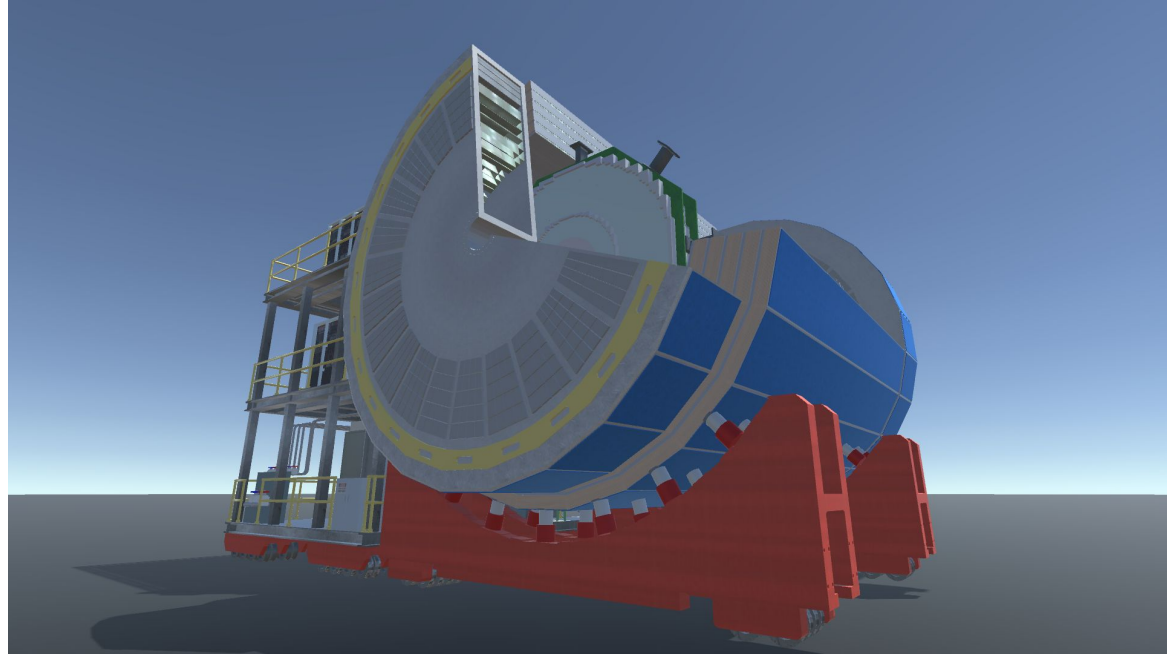


# Discussion on path towards proposal plots



Miguel Arratia, Jets/HF/EW/BSM group meeting , July 20th (T-134)

Provided reasonable input (i.e. single-particle performance from G4 + acceptance edge effects) Delphes can yield a pretty good approximation of G4 performance for “event variables” or “composite objects” such as hadronic-final state, jets, missing energy, etc.

We propose this hybrid approach, which provides a reasonable, balanced path toward benchmarking ATHENA measurements of inclusive DIS, SIDIS, and jets, heavy flavour, in a short timescale

**ATHENA**

- All-silicon
- PID
- ECAL,
- 
- Beam divergence,
- Propagation
- 

**Delphes**

- tracker parametrization,
- matrix (mRICH,
- from Yellow
- Energy-flow
- crossing angles, etc. (from Elke, Brian
- of charged-particles in magnetic
- Charm-jet tagging

**model**

- including for displaced tracks
- DIRC, and dRICH
- report parameters + simplified
- Energy-flow
- crossing angles, etc. (from Elke, Brian
- of charged-particles in magnetic
- Charm-jet tagging

**currently**

- displaced tracks
- and dRICH
- parameters + simplified
- Energy-flow
- crossing angles, etc. (from Elke, Brian
- of charged-particles in magnetic
- Charm-jet tagging

**Delphes**

- Secondary vertexing (and not just displaced tracks), Track
- Addition of photon conversions (provided a material
- “pileup” addition (could add backgrounds, provided there is a MC
- Cluster-counting PID, TOF
- “HECTOR” program to simulate transport of charged particles in magnetic lattices

**Features**

- vertexing (and not just displaced tracks), Track
- of photon conversions (provided a material
- (could add backgrounds, provided there is a MC
- Cluster-counting PID, TOF

**not**

- not just displaced tracks), Track
- conversions (provided a material
- backgrounds, provided there is a MC
- PID, TOF

**yet**

- Track
- material
- MC

**Generating Pythia8 events, passing them through Delphes can be One**

[./DelphesPythia8 ATHENA.tcl./pythia8305/examples/NCDIS.cmnd out.oot](#)

- Well tested, easy to use software with huge user community.
- Many “modules” implemented and tested over years which we can copy/paste

DELPHES 3, A modular framework for fast simulation of a generic collider experiment #1

[DELPHES 3](#) Collaboration • [J. de Favereau](#) (Louvain U., CP3) et al. (Jul 24, 2013)

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