# GlueX Charged Track Reconstruction Status

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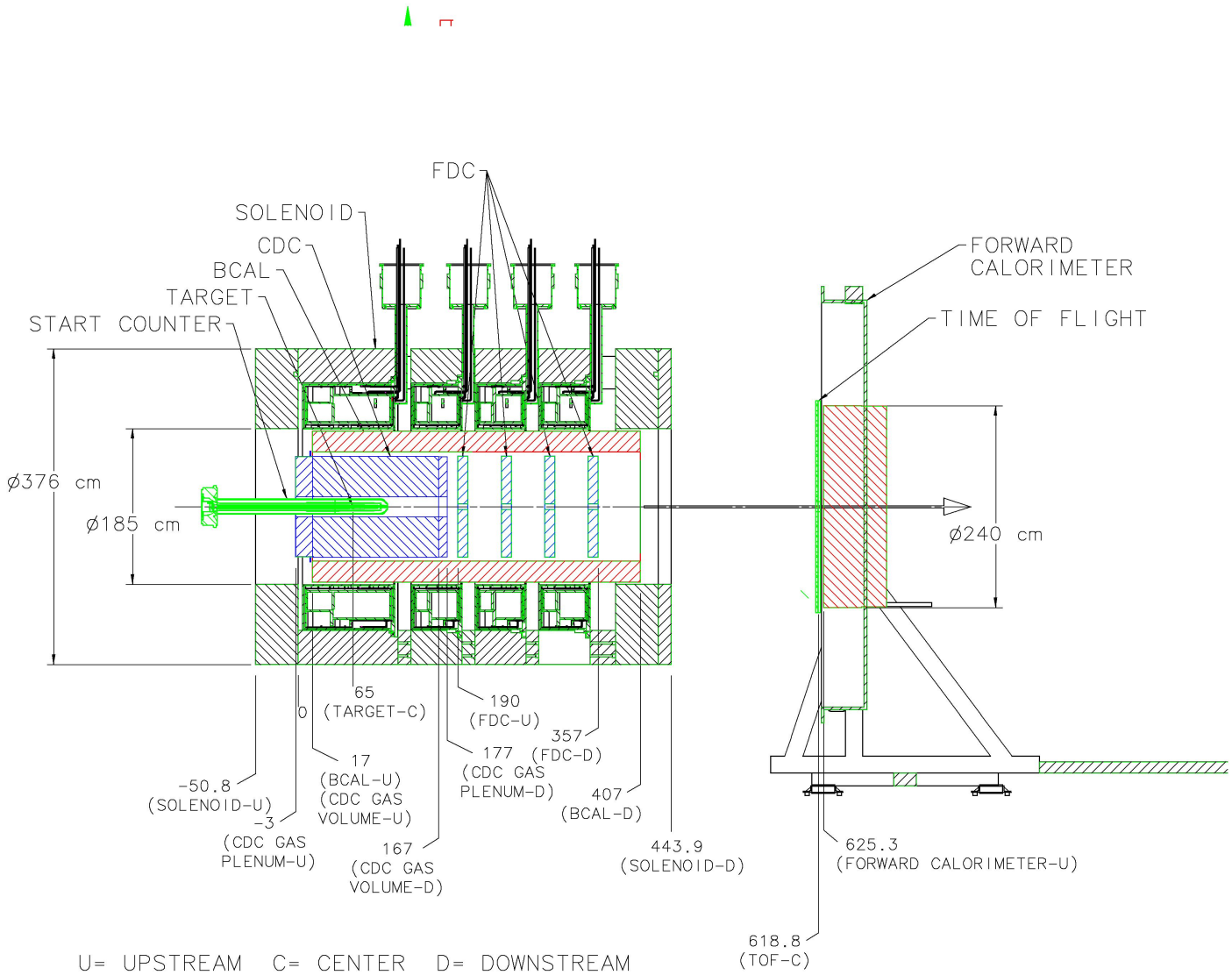
February 27, 2009

# Detector Diagram



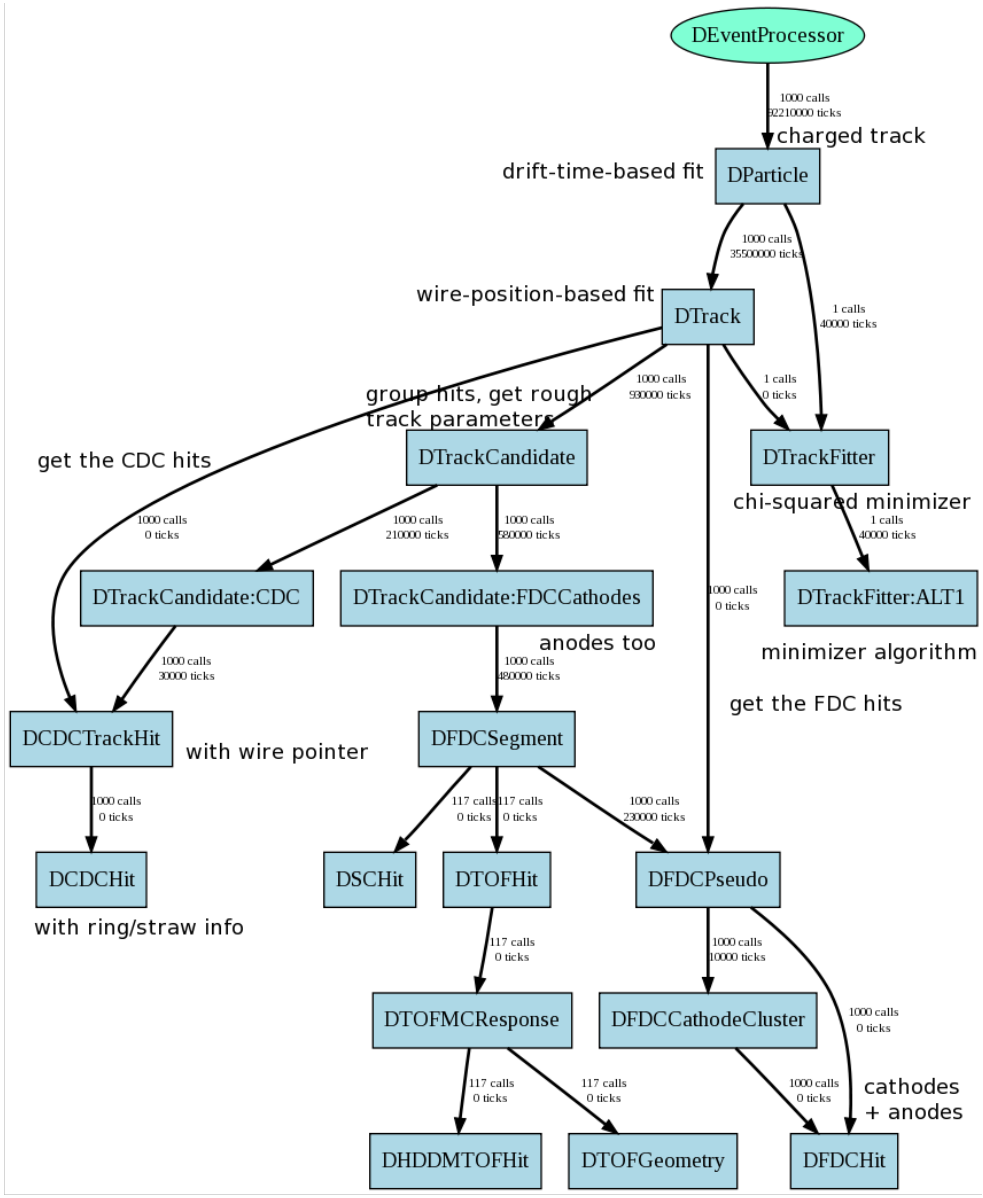
# Track Reconstruction

1. Ask for the appropriate vector of objects:

```
vector<const DParticle*>particles;
eventLoop->Get(particles);
```

2. `DParticle` is derived from `DKinematicData`
3. Both can be found in the `src/libraries/PID` directory
4. Future work
   1. multiple track events
   2. improvement in calculation measurement errors

# Track Reconstruction: calling diagram



# Parametric Monte Carlo

1. Motivation: detector simulation complicated and expensive
2. Approach
   1. calculate tables of efficiency and resolution as a function of momentum and angles, for charged and neutrals, using full Monte Carlo, in advance (experts)
   2. smear ideal 4-vectors by tabulated resolution (user)
   3. fill analyzed vectors with results (user)
3. Main Resource: Wiki page "HOWTO run the semi-parametric Monte Carlo"

# Parametric Monte Carlo: getting started

1. What you need
   1. Hall D build
   2. checkout and build hdparsim plug-in (see wiki for Subversion repository location)
   3. checkout and build any other plug-ins you need (example below)
2. How to run
   1. generate Monte Carlo events, do not run them through the detector simulation (`my_mc.hddm`)
   2. example: `hd_root --plugin=hdparsim --plugin=invariant_mass_hists -PDEFTAG:DParticle=HDParSim -PDEFTAG:DPhoton=HDParSim my_mc.hddm`