

Status on SDT simulation

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Update

- Continue the module (a drift chamber) composing work
 - Two files as for starting point :
 - source file ("test_aMDC.cpp")
 - configuration file ("dch.xml")

Configuration (for this test version)

- Wire configuration

- Simplest one for test purpose --

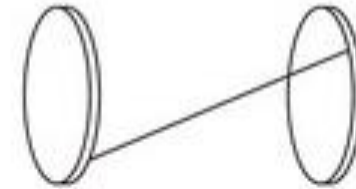
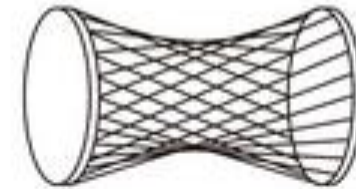
no stereo angle



start from without
stereo angle config.



with stereo angle



- Missing parts

- wire materials, configuration of potential and sense wires

- shield walls

- readout object : cabling/board

- ...

Geometry parameters

```
<!-- A prototype drift chamber for the SDT concept -->
<lccdd>
<detectors>
  <!-- id=7, should be registered in basic_defs.xml-->
  <detector id="7" name="aDCH" type="DCH" readout="DCHCollection" insideTrackingVolume="true" >

    <!-- Borrow an envelope of TPC, to hold MDC inside -->
    <envelope vis="ILD_TPCVis">
      <shape type="Tube" rmin="TPC_inner_radius" rmax="TPC_outer_radius"
        dz="TPC_half_length" material = "Air" />
    </envelope>

    <!-- set the detector type flag which is defined in "detector_types.xml" -->
    <type_flags type="DetType_TRACKER + DetType_GASEOUS + DetType_WIRE" />

    <!-- set a temporal parameters referred from the LDT configurations -->
    <layer nLayer="130" nCell="200" CellSize="10*mm" HalfLength="2350*mm" r0="340*mm" />

  </detector>
</detectors>
<readouts>
  <readout name="DCHCollection">
    <id>system:5,layer:11,module:16</id>
  </readout>
</readouts>
</lccdd>
```

"dch.xml"

A simple settings (not adjusted well but for test/demonstration)

-- Number of layer : 130

-- Number of cell : 200

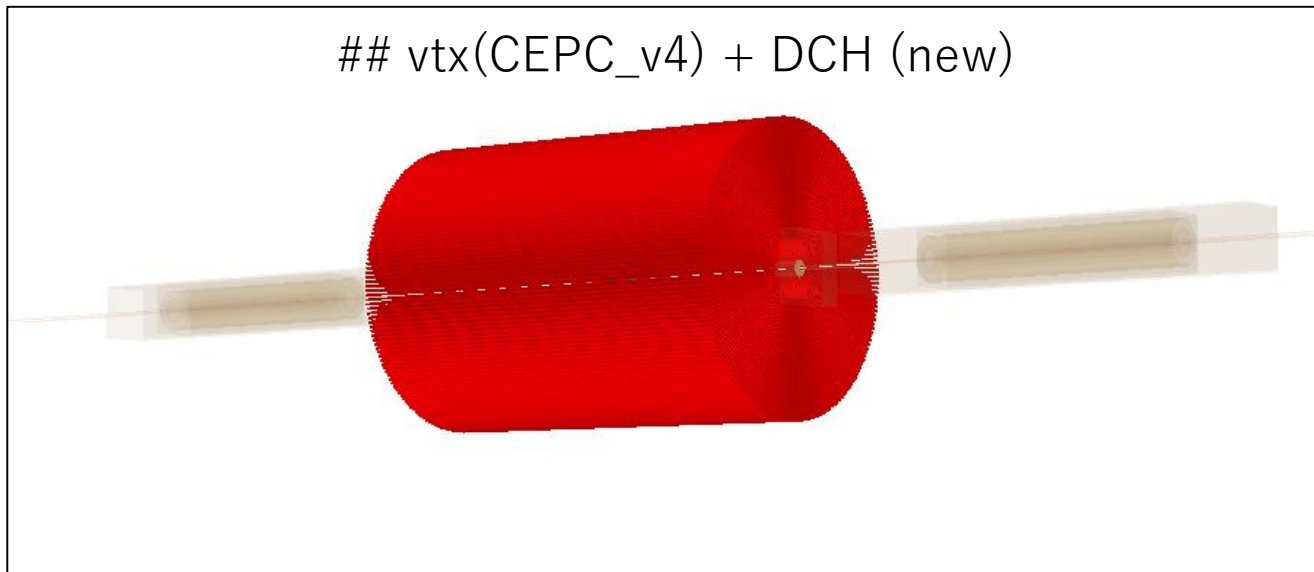
-- cell size : 10 mm

-- minimum $r = 340$ mm

-- (maximum) $z = 2350$ mm

Display

Compilation & visualization processes have passed somehow



- confirmation of hits are not done yet by running the simulation

[Command for display : “geoDisplay”]

```
./run geoDisplay -compact ../Detector/DetCEPCv4/compact/CepC_v4-onlyVXD_DCH.xml
```

Next step

- dE/dX resolution
- fast simulation ?