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Subject: Creating geometry for a new detector

Posted by [Raghav Kunnawalkam](#) on Tue, 28 Feb 2012 23:36:35 GMT

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Hi All

I am trying to build a simpler version of the EIC collider from the rutherford example and i have build all my libraries for my new detector called simpletracker.

I am having problems when i try to create the geometry, i find that only for cave, magnet and the beam pipe, i have the necessary geometry header files.

I have no problems doing these,

```
FairModule* Cave = new FairCave("CAVE");
Cave->SetGeometryFileName("cave.geo");
run->AddModule(Cave);
```

```
FairModule* Pipe = new FairPipe("PIPE");
Pipe->SetGeometryFileName("pipe.geo");
run->AddModule(Pipe);
```

```
FairModule* Magnet = new FairMagnet("MAGNET");
Magnet->SetGeometryFileName("magnet.geo");
run->AddModule(Magnet);
```

But when i try to add another detector or module, for example

```
FairModule* Dpm = new FairDpm("DPM");
Dpm->SetGeometryFileName("dpm.geo");
run->AddModule(Dpm);
```

```
FairDetector* Tpc = new TpcDet("TPC", kTRUE);
Tpc->SetGeometryFileName("tpc.geo");
// Tpc->SetGeometryFileName("tpc_layered.geo");
run->AddModule(Tpc);
```

I am getting errors which say that

Processing run\_simpletracker.C...

```
*****
```

```
* The Pluto event generator
* Developed by HADES and all contributing AUTHORS
* www-hades.gsi.de/computing/pluto/html/PlutoIndex.html
* Version: 5.37
* Compiled on 26 January 2012
*****
```

```
[INFO ] Media file used : /Users/raghav/fairroot/example/geometry_eic/media.geo
```

```
[INFO ] User path for detector geometry :
/Users/raghav/fairroot/example/geometry_eic/cave.geo
```

```
[INFO ] User path for detector geometry :
/Users/raghav/fairroot/example/geometry_eic/pipe.geo
```

```
[INFO ] User path for detector geometry :
```

```
/Users/raghav/fairroot/example/geometry_eic/magnet.geo
Error: Symbol FairDpm is not defined in current scope run_simpletracker.C:107:
Error: type FairDpm not defined
FILE:/Users/raghav/fairroot/example/simpletracker/macros/./run_simpletracker.C LINE:107
*** Interpreter error recovered ***
root [1]
```

Is there a way that i can create these required FairDpm.h and FairDpm.cxx etc. files. I checked panda root but i could not find something similar (maybe i missed it). I would also like to know if there is like a list of all the classes available for fairroot somewhere online. (i checked the documentation page in fairroot.gsi.de, but it did not have anything about fairmagnet.h which i do have.

Any help would be much appreciated. Thanks a lot

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Subject: Re: Creating geometry for a new detector  
Posted by [Mohammad Al-Turany](#) on Wed, 29 Feb 2012 18:03:26 GMT  
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Hi,

Please see:

<http://fairroot.gsi.de/?q=node/47>

You have to implement your detector class yourself. you have to inherits from FairDetector for active detectors (detectors that have to process hits) and it is enough to inherits from FairModule for non-active detectors/modules, so you have to create anew directory (<http://fairroot.gsi.de/?q=node/29>) and then inside this directory you need to put your detector/module classes, i.e:

FairDpm (.h, .cxx)  
FairDpmPoint (.h, .cxx)

Methods which you have (can) implement are documented in the links above.

For Magnet, Target, Cave you can the panda implementation but you have to deliver your own geometry.

hope this will help.

Mohammad