

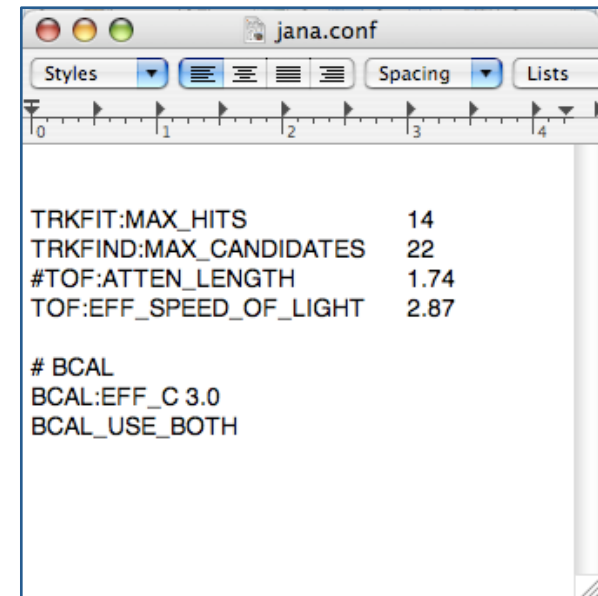
More JANA updates

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August 29, 2008

New command line options

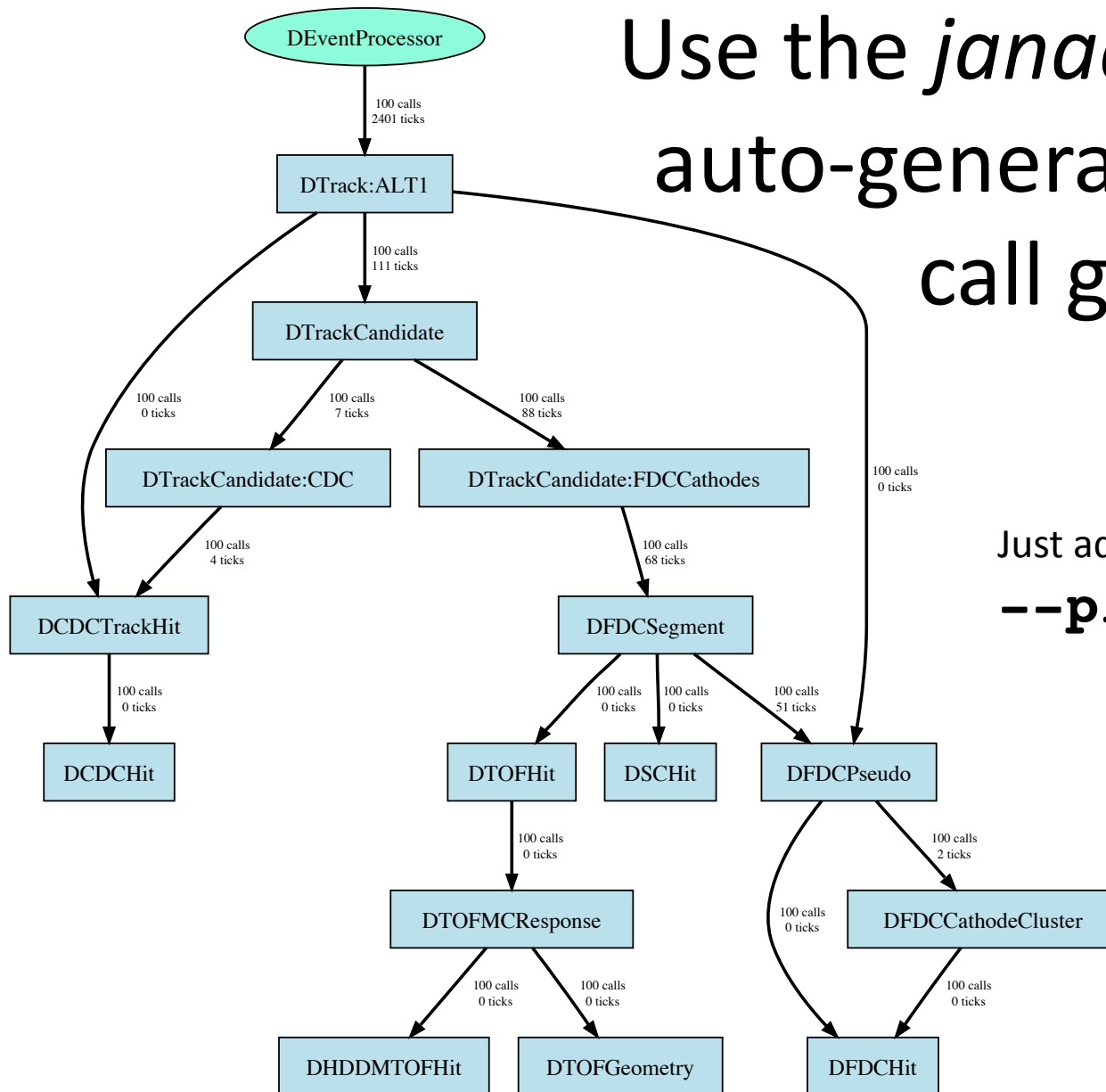
- `--config=filename`
 - Simple ASCII format
 - key value separated by space
 - one parameter per line
 - “#” indicates comment to end of line
- `--auto_activate=factory`
- `-PEVENTS_TO_SKIP=Nskip`
- `-PEVENTS_TO_KEEP=Nkeep`
- `-PTHREAD_TIMEOUT=seconds`



```
TRKFIT:MAX_HITS      14
TRKFIND:MAX_CANDIDATES  22
#TOF:ATTEN_LENGTH     1.74
TOF:EFF_SPEED_OF_LIGHT  2.87

# BCAL
BCAL:EFF_C 3.0
BCAL_USE_BOTH
```

Use the *janadot* plugin to auto-generate a factory call graph



Just add this to command line:
--plugin=janadot

Create ROOT files from objects in JANA using the *janaroot* plugin

- Objects define a representation of themselves in their toString(...) method

```
16 class DMCThrown:public DKinematicData{
17     public:
18         JOBJECT_PUBLIC(DMCThrown);
19
20         int type;          ///< GEANT particle ID
21         int pdgtype;       ///< PDG particle type (not used by GEANT)
22         int myid;          ///< id of this particle from original generator
23         int parentid;      ///< id of parent of this particle from original generator
24         int mech;          ///< production mechanism of this particle (generator specific)
25
26         void toStrings(vector<pair<string,string> > &items)const{
27             AddString(items, "type", "%d", type);
28             AddString(items, "pdgtype", "%d", pdgtype);
29             AddString(items, "myid", "%d", myid);
30             AddString(items, "parentid", "%d", parentid);
31             AddString(items, "mech", "%d", mech);
32             DKinematicData::toStrings(items);
33         }
34
35     };
```

janaroot cont'

- *AddString(...)* is a templated method of *JObject* so it has access to the data type as well as the (full precision) data value
- The *toStrings(...)* method of the *JFactory* class has an option to encode the type and unformatted* value with the name so it can be used to define the object.

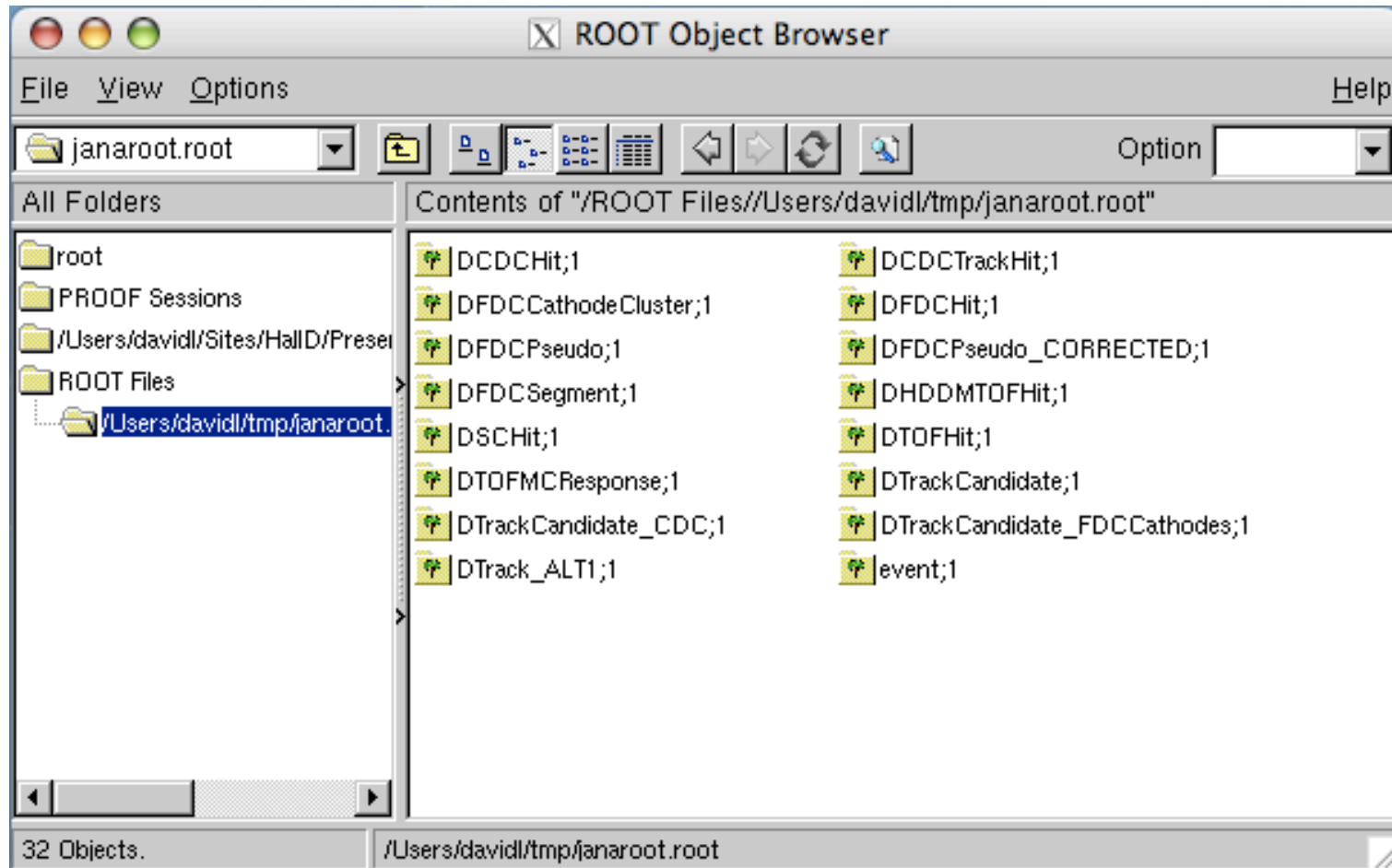
Using the *janaroot* plugin

A simple example:

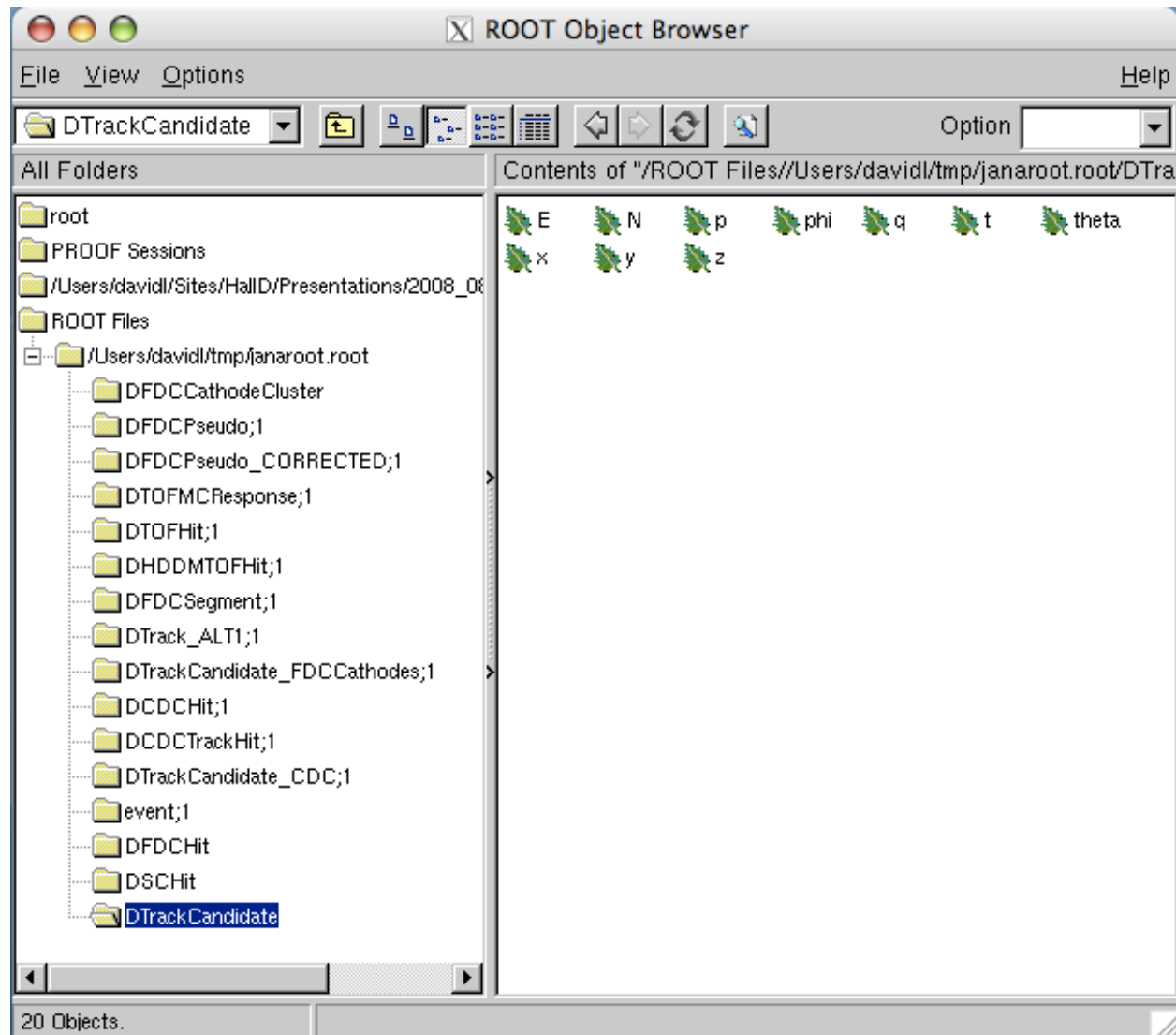
```
hd_ana -plugin=janaroot -auto_activate=DTrack:ALT1 hdgeant.hddm
```

This will create a file called “janaroot.root” and *TTrees* will automatically be defined for each factory that produces objects during this job.

Trees automatically defined by *janaroot*



Auto generated *TLeaf* example



“event” is everybody’s friend!

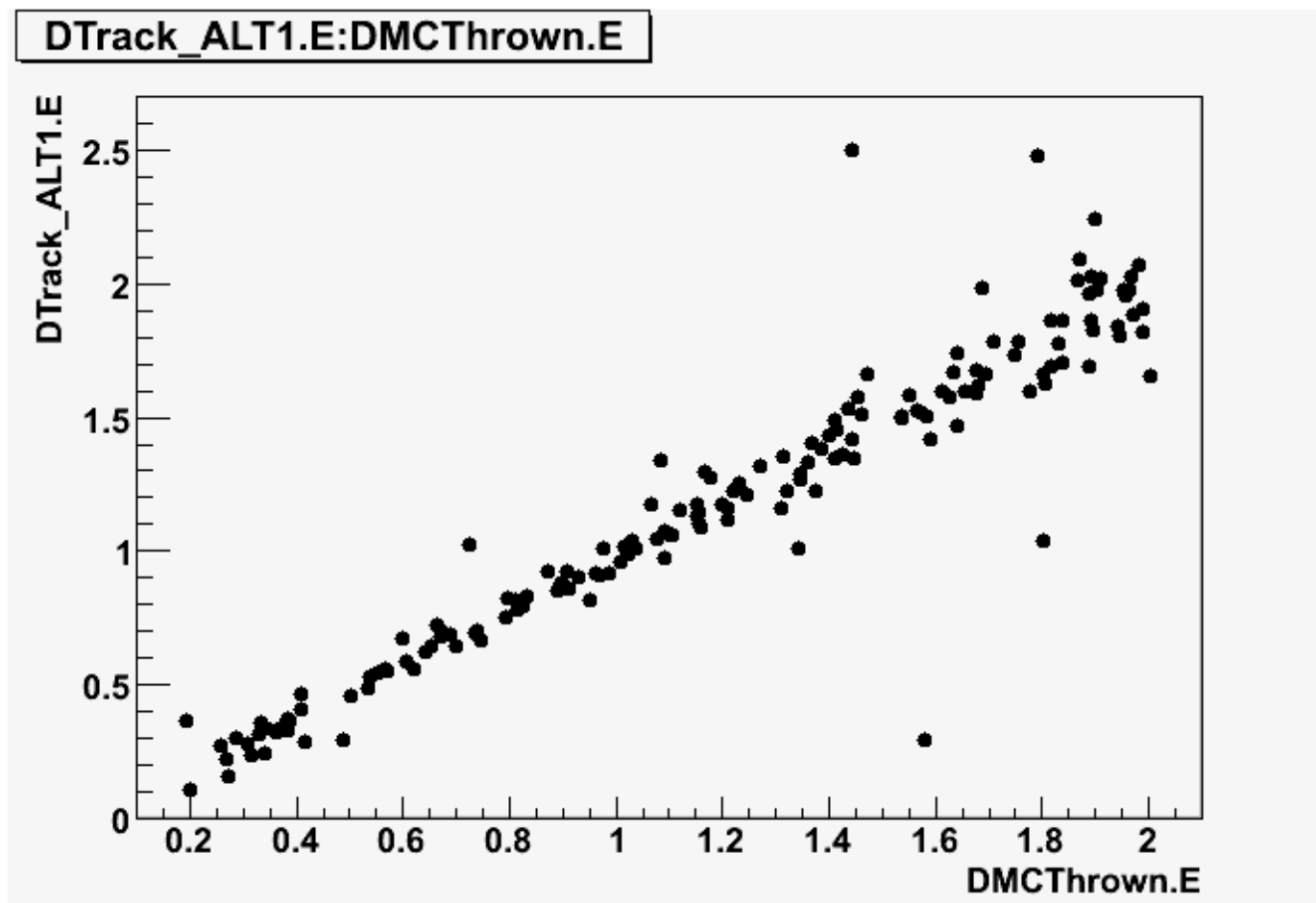
The *event* tree is created just before closing the ROOT file and has all other trees added as “*friend*”s.

The following two lines will result in identical plots

```
DTrack_ALT1->Draw( "E" )  
event->Draw( "DTrack_ALT1.E" )
```

This allows one to plot members of one object vs. another.

Example: Reconstructed vs. Thrown Energy for Charged Tracks



Other modifications

- Improved response to 3 or more SIGINTs (ctl-C) to try a hard exit
- Launch new thread if old one is killed for being non-responsive
- Exit with error if plugin is specified but not found

JANA/DANA wiki page

- <http://www.jlab.org/Hall-D/software/wiki/index.php/JANA/DANA>
- New feature requests and bugs are listed and tracked