
Subject: Out of memory problem in EmcPoint - FairLink ?
Posted by [StefanoSpataro](#) on Tue, 03 Aug 2010 22:15:03 GMT
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Dear all,
trying to run many DPM events we have realized that sometimes the simulation (run_sim_tpccombi_dpm.C) crashes, sometime with a "bad alloc" problem, sometime with a #include error, and without any helpful messages.

In order to check what is really going wrong, I have run the vsame macro under valgrind and finally, after waiting 15 hours, I have found the guilty guy, or at least one of them.

First of all, these are the dpm settings:

```
<I> PndDpmDirect initialization
<I> Momentum = 15
<I> Seed      = 4357
<I> Mode      = 1
<I> Theta min = 0.001
```

At the beginning I have many valgrind messages, uninitialized values in writing the parameter containers, maybe some expert (Mohammad) should take a look there:

Toggle Spoiler

```
-I- FairMCApplication:: Monte carlo Engine Initialisation with TGeant3TGeo
RuntimeDb: write container PndEmcGeoPar
*** PndEmcGeoPar written to ROOT file version: 1
RuntimeDb: write container PndSensorNamePar
*** PndSensorNamePar written to ROOT file version: 1
RuntimeDb: write container PndEmcDigiPar
*** PndEmcDigiPar written to ROOT file version: 1
RuntimeDb: write container PndEmcDigiNonuniformityPar
RuntimeDb: write container FairBaseParSet
==8505== Use of uninitialised value of size 4
==8505== at 0x42169AF: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
```

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otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParlo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505== by 0x7EE8A1F: FairRuntimeDb::writeContainers() (FairRuntimeDb.cxx:24
2)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x42169C6: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
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==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
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==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
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==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
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==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParlo*) (FairParGenericSe
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==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
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==8505== by 0x7EE8A1F: FairRuntimeDb::writeContainers() (FairRuntimeDb.cxx:24
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==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
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==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
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2)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x421684B: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
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==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
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==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
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==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
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==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
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==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
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==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
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==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParlo*) (FairParGenericSe
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==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
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==8505== by 0x7EE8A1F: FairRuntimeDb::writeContainers() (FairRuntimeDb.cxx:24
2)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
==8505== at 0x42162FF: longest_match (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x4216BA3: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
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==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
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==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar

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o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
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==8505== Conditional jump or move depends on uninitialised value(s)
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==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
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==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
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==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
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==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
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==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
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==8505== Conditional jump or move depends on uninitialised value(s)
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==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
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==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
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==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
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==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar

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o/jan10/tools/root/lib/libCore.so.5.26)
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==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
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==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
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==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
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==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
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==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
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==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
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==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
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==8505== Conditional jump or move depends on uninitialised value(s)
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==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
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==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
y*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar

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o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Use of uninitialised value of size 4
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505== by 0x7EE8A1F: FairRuntimeDb::writeContainers() (FairRuntimeDb.cxx:242)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
==8505== at 0x421632F: longest_match (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4216BA3: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)

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o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
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==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
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==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
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==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
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==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
==8505== at 0x421633A: longest_match (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x4216BA3: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
y*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar

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o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
==8505== at 0x4216345: longest_match (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x4216BA3: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
y*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
==8505== at 0x421635B: longest_match (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x4216BA3: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
y*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar

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o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
==8505== at 0x4216371: longest_match (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x4216BA3: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
y*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Conditional jump or move depends on uninitialised value(s)
==8505== at 0x4216366: longest_match (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x4216BA3: deflate_fast (in /home/spataro/jan10/tools/root/lib/li
bCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore
.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.
so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirector
y*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar

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o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x421CE87: compress_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421D932: _tr_flush_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4216A84: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x421D1AA: compress_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421D932: _tr_flush_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4216A84: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/

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spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x421CEA9: compress_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421D932: _tr_flush_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4216A84: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x421CE87: compress_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421D932: _tr_flush_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4216B0B: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/

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spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x421D1AA: compress_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421D932: _tr_flush_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4216B0B: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRootFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSet.cxx:43)
==8505==
==8505== Use of uninitialised value of size 4
==8505== at 0x421CEA9: compress_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421D932: _tr_flush_block (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4216B0B: deflate_fast (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x421556D: deflate (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x42127FA: R__zip (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x5F06617: TKey::TKey(TObject const*, char const*, int, TDirectory*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char const*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/

```

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spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505==
==8505== Syscall param write(buf) points to uninitialised byte(s)
==8505== at 0x9FC5F3: __write_nocancel (in /lib/tls/libpthread-2.3.4.so)
==8505== by 0x5EF0BEF: TFile::WriteBuffer(char const*, int) (in /home/spataro
/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5F06CF7: TKey::WriteFile(int, TFile*) (in /home/spataro/jan10/t
ools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE3066: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505== by 0x7EE8A1F: FairRuntimeDb::writeContainers() (FairRuntimeDb.cxx:24
2)
==8505== by 0x7EEA29C: FairRuntimeDb::saveOutput() (FairRuntimeDb.cxx:600)
==8505== by 0x7F018E4: G__ParBaseDict_237_0_31(G__value*, char const*, G__par
am*, int) (ParBaseDict.cxx:5982)
==8505== Address 0x1C680DA7 is 1,535,359 bytes inside a block of size 11,257,41
9 alloc'd
==8505== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==8505== by 0x5F065AD: TKey::TKey(TObject const*, char const*, int, TDirector
y*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EEDC88: TFile::CreateKey(TDirectory*, TObject const*, char con
st*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x5EE2F60: TDirectoryFile::WriteTObject(TObject const*, char cons
t*, char const*, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==8505== by 0x41520E7: TObject::Write(char const*, int, int) const (in /home/
spataro/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x4151F62: TObject::Write(char const*, int, int) (in /home/spatar
o/jan10/tools/root/lib/libCore.so.5.26)
==8505== by 0x7EDA4C1: FairDetParRootFileIo::write(FairParSet*) (FairDetParRo
otFileIo.cxx:70)
==8505== by 0x7EDE7E5: FairParGenericSet::write(FairParIo*) (FairParGenericSe
t.cxx:43)
==8505== by 0x7EE8E52: FairRuntimeDb::writeContainer(FairParSet*, FairRtdbRun
*, FairRtdbRun*) (FairRuntimeDb.cxx:297)
==8505== by 0x7EE8A1F: FairRuntimeDb::writeContainers() (FairRuntimeDb.cxx:24
2)

```

```

==8505== by 0x7EEA29C: FairRuntimeDb::saveOutput() (FairRuntimeDb.cxx:600)
==8505== by 0x7F018E4: G__ParBaseDict_237_0_31(G__value*, char const*, G__par
am*, int) (ParBaseDict.cxx:5982)
*** FairBaseParSet written to ROOT file version: 1
RuntimeDb: write container PndMultiFieldPar
*** PndMultiFieldPar written to ROOT file version: 1
RuntimeDb: write container PndTransPar
RuntimeDb: write container PndDipole1Par
RuntimeDb: write container PndDipole2Par
RuntimeDb: write container PndSolenoid1Par
RuntimeDb: write container PndSolenoid2Par
RuntimeDb: write container PndSolenoid3Par
RuntimeDb: write container PndSolenoid4Par
RuntimeDb: write container PndGeoPassivePar

```

However, this is not the problem. The problem appears at the 58th event:

Toggle Spoiler

```

DIGI EXECUTION *****
**** GTRIGI: IEVENT= 58 IDEVT= 58 Random Seeds = 4357 0
- I -: new particle at: 0.000000, 0.000000, 0.000000 ...
- I -: new particle at: 0.000000, 0.000000, 0.000000 ...
- I -: new particle at: 0.000000, 0.000000, 0.000000 ...
- I -: new particle at: 0.000000, 0.000000, 0.000000 ...
- I -: new particle at: 0.000000, 0.000000, 0.000000 ...
- I -: new particle at: 0.000000, 0.000000, 0.000000 ...
- I FairPrimaryGenerator: 6 primary tracks from vertex (0, 0, 0)Event Time = 0(ns
)
**8505** new/new[] failed and should throw an exception, but Valgrind
cannot throw exceptions and so is aborting instead. Sorry.
==8505== at 0x400429A: VALGRIND_PRINTF_BACKTRACE (valgrind.h:319)
==8505== by 0x40047BA: operator new(unsigned) (vg_replace_malloc.c:164)
==8505== by 0x7F6C4B6: __gnu_cxx::new_allocator<std::_Rb_tree_node<FairLink>
>::allocate(unsigned, void const*) (new_allocator.h:81)
==8505== by 0x7F6C485: std::_Rb_tree<FairLink, FairLink, std::_Identity<FairL
ink>, std::less<FairLink>, std::allocator<FairLink> >::_M_get_node() (stl_tree.h
:356)
==8505== by 0x7F6C382: std::_Rb_tree<FairLink, FairLink, std::_Identity<FairL
ink>, std::less<FairLink>, std::allocator<FairLink> >::_M_create_node(FairLink c
onst&) (stl_tree.h:365)
==8505== by 0x7F6C2C8: std::_Rb_tree<FairLink, FairLink, std::_Identity<FairL
ink>, std::less<FairLink>, std::allocator<FairLink> >::_M_insert(std::_Rb_tree_n
ode_base*, std::_Rb_tree_node_base*, FairLink const&) (stl_tree.h:809)
==8505== by 0x7F6C165: std::_Rb_tree<FairLink, FairLink, std::_Identity<FairL
ink>, std::less<FairLink>, std::allocator<FairLink> >::insert_unique(FairLink co
nst&) (stl_tree.h:925)
==8505== by 0x7F6BFFE: std::set<FairLink, std::less<FairLink>, std::allocator<FairLink>
>::insert(FairLink const&) (stl_set.h:314)
==8505== by 0x7F6D519: FairMultiLinkedData::InsertLink(FairLink)
(FairMultiLinkedData.h:66)

```

```
==8505== by 0x7F6F792: FairMultiLinkedData::AddLink(FairLink, bool, float)
(FairMultiLinkedData.h:216)
==8505== by 0x7F6FAF8: FairMultiLinkedData::SetLink(FairLink, bool, float)
(FairMultiLinkedData.h:164)
==8505== by 0x9452491: PndEmcPoint::PndEmcPoint(int, int, int, TVector3, TVector3,
double, double, double, short, short, short, short) (PndEm
cPoint.cxx:57)
==8505==
==8505== ERROR SUMMARY: 32819 errors from 24 contexts (suppressed: 311271 from 4)
==8505== malloc/free: in use at exit: 643,550,202 bytes in 9,260,380 blocks.
==8505== malloc/free: 391,169,025 allocs, 381,908,644 frees, 2,035,952,266 bytes allocated.
==8505== For counts of detected errors, rerun with: -v
```

The problem appears in PndEmcPoint.cxx at line +57:

```
SetLink(FairLink("MCTrack", trackID));
```

It is not so clear to me if this is a problem coming from the stuff inside fairlink, maybe set or allocator. Or maybe there is some "wrong" information from EmcPoint which is making FairLink crazy. The valgrind message new/new[] failed and should throw an exception appears when a "new" is trying to allocate memory but memory is full... there is something eating up the memory.

If the same macro is run without valgring, it proceeds without crashing at the event, but the memory is slowly eaten and sooner or later the macro crashes definitely.

I would leave the work to experts, because I was not able to find what is the memory problem we have.
