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Subject: Bug in base I/O?

Posted by [Stefano Spataro](#) on Wed, 05 May 2010 16:20:21 GMT

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Dear all,

I would like to report about the problem I have trying to plot variables from the root shell, or from the TBrowser.

I can run a simple simulation macro, i.e. macro/mdt/sim\_muon.C, and open the output root file test.root.

Once I open test.root, I can open a TBrowser and try to plot MCTrack variables, such as MCTrack.fPz or MCTrack.GetMomentum().Pz(), everything works. I can try also to write the commands in a shell:

```
root [2] cbmsim.Draw("MCTrack.fPz")
root [3] cbmsim.Draw("MCTrack.GetMomentum().fZ")
root [4] cbmsim.Draw("MCTrack.GetMomentum().Pz()")
```

They work.

I can try to do the same with MdtHit TCA, a TClonesArray made of PndMdtPoint inheriting from FairMCPoint<-FairBasePoint<-FairMultiLinkedData<-FairLinkedData<-TObject.

I can plot MdtPoint.fX, fine, but when I try to plot something using functions, i.e. MdtPoint.GetSector(), I have the following crash:

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```
root [2] <TCanvas::MakeDefCanvas>: created default TCanvas with name c1
```

```
*** Break *** segmentation violation
```

```
=====
There was a crash (#7 0x009793b0 in SigHandler ()).
```

This is the entire stack trace of all threads:

```
=====
#0 0x0075f7a2 in _dl_sysinfo_int80 () from /lib/ld-linux.so.2
#1 0x03a6ef13 in __waitpid_nocancel () from /lib/tls/libc.so.6
#2 0x03a187b9 in do_system () from /lib/tls/libc.so.6
#3 0x0072b98d in system () from /lib/tls/libpthread.so.0
#4 0x00976c87 in TUnixSystem::Exec ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#5 0x0097cb66 in TUnixSystem::StackTrace ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#6 0x00979322 in TUnixSystem::DispatchSignals ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#7 0x009793b0 in SigHandler ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#8 0x0097862d in sighandler ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
```

```

#9 <signal handler called>
#10 0x0173aee0 in TBufferFile::ReadInt ()
    from /home/spataro/jan10/tools/root/lib/libRIO.so
#11 0x017f21e3 in TStreamerInfo::ReadBuffer<char**> ()
    from /home/spataro/jan10/tools/root/lib/libRIO.so
#12 0x0177ba09 in TStreamerInfo::ReadBufferClones ()
    from /home/spataro/jan10/tools/root/lib/libRIO.so
#13 0x018e89e8 in TBranchElement::ReadLeaves ()
    from /home/spataro/jan10/tools/root/lib/libTree.so
#14 0x018e2a14 in TBranch::GetEntry ()
    from /home/spataro/jan10/tools/root/lib/libTree.so
#15 0x018e4da7 in TBranchElement::GetEntry ()
    from /home/spataro/jan10/tools/root/lib/libTree.so
#16 0x018e4d43 in TBranchElement::GetEntry ()
    from /home/spataro/jan10/tools/root/lib/libTree.so
#17 0x04429c0e in TTreeFormula::ParseWithLeaf ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#18 0x04430e8e in TTreeFormula::DefinedVariable ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#19 0x01169fc7 in TFormula::Analyze ()
    from /home/spataro/jan10/tools/root/lib/libHist.so
#20 0x011790bf in TFormula::Compile ()
    from /home/spataro/jan10/tools/root/lib/libHist.so
#21 0x0441db14 in TTreeFormula::Init ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#22 0x0442c6d7 in TTreeFormula::TTreeFormula ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#23 0x0441ad59 in TSelectorDraw::CompileVariables ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#24 0x04413cf0 in TSelectorDraw::Begin ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#25 0x0443f858 in TTreePlayer::Process ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#26 0x04439a7b in TTreePlayer::DrawSelect ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#27 0x0193286f in TTree::Draw ()
    from /home/spataro/jan10/tools/root/lib/libTree.so
#28 0x018d85bb in TVirtualBranchBrowsable::Browse ()
    from /home/spataro/jan10/tools/root/lib/libTree.so
#29 0x0216eeb4 in TRootBrowserLite::IconBoxAction ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#30 0x021703cb in TRootBrowserLite::ProcessMessage ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#31 0x020acdfc in TGFrame::HandleClientMessage ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#32 0x020b0302 in TGMainFrame::HandleClientMessage ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#33 0x020ac9b0 in TGFrame::HandleEvent ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#34 0x020789d7 in TGClient::HandleEvent ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#35 0x02078af1 in TGClient::ProcessOneEvent ()

```

```

from /home/spataro/jan10/tools/root/lib/libGui.so
#36 0x02078ba2 in TGClient::HandleInput ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#37 0x02078bd6 in TGInputHandler::Notify ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
#38 0x00979740 in TUnixSystem::DispatchOneEvent ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#39 0x008f3bfc in TSystem::InnerLoop ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#40 0x008f39c3 in TSystem::Run ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#41 0x00897c1e in TApplication::Run ()
    from /home/spataro/jan10/tools/root/lib/libCore.so.5.26
#42 0x006d15a6 in TRint::Run ()
    from /home/spataro/jan10/tools/root/lib/libRint.so.5.26
#43 0x08048d5a in main ()
=====

```

The lines below might hint at the cause of the crash.  
If they do not help you then please submit a bug report at  
<http://root.cern.ch/bugs>. Please post the ENTIRE stack trace  
from above as an attachment in addition to anything else  
that might help us fixing this issue.

```

=====
#10 0x0173aee0 in TBufferFile::ReadInt ()
    from /home/spataro/jan10/tools/root/lib/libRIO.so
#11 0x017f21e3 in TStreamerInfo::ReadBuffer<char**> ()
    from /home/spataro/jan10/tools/root/lib/libRIO.so
#12 0x0177ba09 in TStreamerInfo::ReadBufferClones ()
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#19 0x01169fc7 in TFormula::Analyze ()
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    from /home/spataro/jan10/tools/root/lib/libHist.so
#21 0x0441db14 in TTreeFormula::Init ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#22 0x0442c6d7 in TTreeFormula::TTreeFormula ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#23 0x0441ad59 in TSelectorDraw::CompileVariables ()

```

```

from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#24 0x04413cf0 in TSelectorDraw::Begin ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#25 0x0443f858 in TTreePlayer::Process ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#26 0x04439a7b in TTreePlayer::DrawSelect ()
    from /home/spataro/jan10/tools/root/lib/libTreePlayer.so
#27 0x0193286f in TTree::Draw ()
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#28 0x018d85bb in TVirtualBranchBrowsable::Browse ()
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#32 0x020b0302 in TGMainFrame::HandleClientMessage ()
    from /home/spataro/jan10/tools/root/lib/libGui.so
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#42 0x006d15a6 in TRint::Run ()
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#43 0x08048d5a in main ()
=====

```

Root >

Considering that MCTrack is not inheriting from the FairXXXLinkData, and that I have the problem with all the objects inheriting from that class, and that before the link implementation I was able to plot everything fine (mdt code is not touched since a while), I would think it is a problem of this Link implementation. But it can be also that the problem comes from some "base" implementation different from the Link.

I ahve trid with different data object and I found always the same crash. If one want to plot something like theta or momentum which come from functions, it is quite... nasty.

I would call for some help from base developers.

Many thanks

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