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Subject: bug in PidCorrelator

Posted by [Johannes Rauch](#) on Thu, 28 Jul 2011 15:52:05 GMT

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Hi,

running the eta\_c macros i came across a floating point exception after ~100 events.

I think it just happens that there is a division by 0 or some values exceed the numerical boundaries.

These cases should be prevented.

Thanks

\*\*\* Break \*\*\* floating point exception

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There was a crash (#6 0xb7201e3d in SigHandler(ESignals) ()).
```

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This is the entire stack trace of all threads:
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```
=====
#0 0xb65c495e in __waitpid_nocancel ()
   at ../sysdeps/unix/syscall-template.S:82
#1 0xb6566c93 in do_system (line=<value optimized out>)
   at ../sysdeps/posix/system.c:149
#2 0xb6680d6d in system (
   line=0x1695fa68
"/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/etc/gdb-backtrace.sh 18787 1>&2")
   at pt-system.c:29
#3 0xb71fc33d in TUnixSystem::Exec(char const*) ()
   from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#4 0xb720291a in TUnixSystem::StackTrace() ()
   from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#5 0xb7201d2f in TUnixSystem::DispatchSignals(ESignals) ()
   from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#6 0xb7201e3d in SigHandler(ESignals) ()
   from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#7 0xb71f8ee2 in sighandler(int) ()
```

```

from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#8 <signal handler called>
#9 0xb0294edd in FairGeanePro::Propagate (this=0x1a414bf0, TParam=0x1a414960,
    TEnd=0x1a414e98, PDG=-211)
    at /nfs/hicran/project/panda/SIM/jrauch/clean/geane/FairGeanePro.cxx:144
#10 0xaf6e8b87 in PndPidCorrelator::GetTrackInfo (this=0xa018460,
    track=0x12b00e10, pidCand=0x1dac6c20)
    at /nfs/hicran/project/panda/SIM/jrauch/clean/pid/PidCorr/PndPidTrackInfo.cxx:47
#11 0xaf6de711 in PndPidCorrelator::ConstructChargedCandidate (this=0xa018460)
    at /nfs/hicran/project/panda/SIM/jrauch/clean/pid/PidCorr/PndPidCorrelator.cxx:594
#12 0xaf6de16f in PndPidCorrelator::Exec (this=0xa018460, option=0xb36e52d8 "")
    at /nfs/hicran/project/panda/SIM/jrauch/clean/pid/PidCorr/PndPidCorrelator.cxx:538
#13 0xb7182e78 in TTask::ExecuteTasks(char const*) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#14 0xb718215e in TTask::ExecuteTask(char const*) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#15 0xb362e9d4 in FairRunAna::Run (this=0x98671d8, Ev_start=0, Ev_end=200)
    at /nfs/hicran/project/panda/SIM/jrauch/clean/base/FairRunAna.cxx:353
#16 0xb368a02d in G__FairDict_894_0_5 (result7=0xbfe11268,
    funcname=0x9864e70 "", libp=0xbfe06c24, hash=0)
    at /nfs/hicran/project/panda/SIM/jrauch/clean/build/base/FairDict.cxx:13775
#17 0xb6a6de97 in Cint::G__ExceptionWrapper(int (*)(G__value*, char const*, G__param*,
int), G__value*, char*, G__param*, int) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#18 0xb6b1cc8f in G__execute_call ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#19 0xb6b1db2a in G__call_cppfunc ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#20 0xb6af81a5 in G__interpret_func ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#21 0xb6ae567d in G__getfunction ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#22 0xb6be1004 in G__getstructmem(int, G__FastAllocString&, char*, int, char*, int*,
G__var_array*, int) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_

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TH2Poly/lib/libCint.so
#23 0xb6bd6d09 in G__getvariable ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#24 0xb6abe618 in G__getitem ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#25 0xb6ac4c17 in G__getexpr ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#26 0xb6b4cd74 in G__exec_statement ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#27 0xb6aaa0cd in G__exec_tempfile_core ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#28 0xb6aaa3bb in G__exec_tempfile ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#29 0xb6b61124 in G__process_cmd ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCint.so
#30 0xb71bddcb in TCint::ProcessLine(char const*, TInterpreter::EErrorCode*) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#31 0xb71bd911 in TCint::ProcessLineSynch(char const*, TInterpreter::EErrorCode*) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#32 0xb710ce8a in TApplication::ExecuteFile(char const*, int*, bool) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#33 0xb710d2dc in TApplication::ProcessFile(char const*, int*, bool) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#34 0xb710a77f in TApplication::ProcessLine(char const*, bool, int*) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#35 0xb67ff818 in TRint::HandleTermInput() ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_

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TH2Poly/lib/libRint.so
#36 0xb67fdee5 in TTermInputHandler::Notify() ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libRint.so
#37 0xb6800c04 in TTermInputHandler::ReadNotify() ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libRint.so
#38 0xb7200067 in TUnixSystem::CheckDescriptors() ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#39 0xb7200235 in TUnixSystem::DispatchOneEvent(bool) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#40 0xb71703a1 in TSystem::InnerLoop() ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#41 0xb7173049 in TSystem::Run() ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#42 0xb7108537 in TApplication::Run(bool) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#43 0xb6800519 in TRint::Run(bool) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libRint.so
#44 0x08048eaf in main ()
#45 0xb6544c76 in __libc_start_main (main=0x8048e40 <main>, argc=2,
    ubp_av=0xbfe1a8c4, init=0x8049040 <__libc_csu_init>,
    fini=0x8049030 <__libc_csu_fini>, rtdl_fini=0xb773f040 <_dl_fini>,
    stack_end=0xbfe1a8bc) at libc-start.c:228
#46 0x08048d71 in _start ()
=====

```

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.

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=====
#9 0xb0294edd in FairGeanePro::Propagate (this=0x1a414bf0, TParam=0x1a414960,
    TEnd=0x1a414e98, PDG=-211)
    at /nfs/hicran/project/panda/SIM/jrauch/clean/geane/FairGeanePro.cxx:144
#10 0xaf6e8b87 in PndPidCorrelator::GetTrackInfo (this=0xa018460,

```

```
track=0x12b00e10, pidCand=0x1dac6c20)
at /nfs/hicran/project/panda/SIM/jrauch/clean/pid/PidCorr/PndPidTrackInfo.cxx:47
#11 0xaf6de711 in PndPidCorrelator::ConstructChargedCandidate (this=0xa018460)
at /nfs/hicran/project/panda/SIM/jrauch/clean/pid/PidCorr/PndPidCorrelator.cxx:594
#12 0xaf6de16f in PndPidCorrelator::Exec (this=0xa018460, option=0xb36e52d8 "")
at /nfs/hicran/project/panda/SIM/jrauch/clean/pid/PidCorr/PndPidCorrelator.cxx:538
#13 0xb7182e78 in TTask::ExecuteTasks(char const*) ()
from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#14 0xb718215e in TTask::ExecuteTask(char const*) ()
from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#15 0xb362e9d4 in FairRunAna::Run (this=0x98671d8, Ev_start=0, Ev_end=200)
at /nfs/hicran/project/panda/SIM/jrauch/clean/base/FairRunAna.cxx:353
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```

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