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Subject: FR4 material density in Mokka (HCAL)  
Posted by [lucaci](#) on Tue, 27 Nov 2007 11:19:46 GMT  
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Hello,  
it was brought to my attention that there is an inconsistency in the PCB FR4 material density.

In the code of TBhcal05.cc it is stated that the densities are taken from  
<http://pcba10.ba.infn.it/temp/ddd/ma/materials/list.html>  
and the FR4 density is set to 1.025g/cm3.

However, in the above mentioned list, there are 3 materials with 'FR4' in the name: NEMA\_FR4,  
M\_NEMA FR4 and T\_FR4.

Although they all have the same composition, their density differs: 1.025 g/cm3 for the first case,  
and 1.7 g/cm3 for the last two cases.

Does anybody know an explanation for this?

Regards,  
Angela.

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Subject: Mokka MySQL DB down on December 4  
Posted by [musat](#) on Thu, 29 Nov 2007 09:57:18 GMT  
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Dear friends,

Our central MySQL server, as well as the Mokka CVS repository  
will be down on December 4 in the morning, and will be restarted  
in the afternoon, the same day.

Please excuse us for the troubles that this may cause.

Cheers, Paulo and Gabriel

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Subject: Change in model LDC01\_05Sc  
Posted by [musat](#) on Thu, 06 Dec 2007 16:58:09 GMT  
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Dear Mokka users,

A change was made in the composition of model LDC01\_05Sc: sub-detector tpc07 was replaced by the new tpc08 implemented by Steve Aplin. The change was made in the central DB, so in order to build model LDC01\_05Sc as specified by this central DB, you'll need to checkout the head of Mokka (containing new driver tpc06) and re-compile Mokka.

Cheers, Gabriel

---

Subject: New release Mokka-06-05-p02  
Posted by [mora](#) on Fri, 21 Dec 2007 17:05:19 GMT  
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Dear friends,

The new Mokka release 6.5p02 is available at the usual address

[mokka.in2p3.fr](http://mokka.in2p3.fr)

You should need it if you want to simulate the last LDC base line (V5) and also the LDC', toward a LDC-GLD merging.

Merry christmas !!!

From Release Notes:

- I. Ecal, -z endcap hits fixed
- II. New parameters in DB for digitilization
- III. GEAR interface updates
- IV. Ecal plug (or ring around Lcal)
- V. New orientation for Ecal slabs in end caps

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Please note that:

1. This Mokka release co-works with Geant4 9.0.p01 and CLHEP 2.0.3.1

LCIO v01-05, v01-06, v01-07, v01-08-01 or v01-09 (recommended),  
gcc 3.2.3, gcc 3.4.5 or  
gcc 4.1.1, SL3 or SL4, optionally with Gear v00-08

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#### I. Ecal, -z endcap hits fixed

Before fixes, all end cap hits in Ecal were always placed in +Z end cap. Fixed.

#### II. New parameters in DB with hints for digitilization

Tree new parameters in Mokka DB with hints for digitilization:  
Hcal\_digitization\_tile\_size and TPC\_pad\_width.

These parameters have no meaning for Simulation, they are just written in Gear files used by reconstruction processes.

Note: TPC\_pad\_height is used in the simulation in tpc08 (TPC06.cc) which creates tracker hits at the measurement surfaces defined by the pad rows

#### III. GEAR interface updates:

- GEAR interface added to LumiCal and LumiCalX drivers. GEAR interface removed from SLcal01, as that superdriver is using LumiCalX (and thus the LumiCalX GEAR interface).
- SHcal03 GEAR interface extended to treat the HCAL ring properly. The new version of this code requires GEAR v00-08 or newer.
- SHcal03 GEAR interface will now use Hcal\_digitization\_tile\_size to describe the CellSize0 and CellSize1 parameters in the GEAR file, i.e. those are now 30mm by default instead of 10mm.

#### IV. Ecal plug (or ring around Lcal)

A new device, the Ecal plug (or the Ecal ring) is built by SEcal02. It implements a squared-rounded ring around the LCal. The central cylinder hole follow the Lcal placement, depending on the crossing angle, and also its size takes in account the new parameter Ecal\_Lcal\_ring\_gap which defines the distance between the Lcal and the ring.

It has the same Ecal internal structure. It mean, the same number of

layers, the same thickness and the same Z placement as the end cap modules, both for the radiator and Si layers. The only difference, the sensitive Si layer is a flat plate of Si, without any structure like wafers, guard rings or fiber walls. The cell size is the same as for the Ecal end caps. The hits from this new device are written in two new calorimeter hits collections: EcalEndcapRingCollection and EcalEndcapRingPreShowerCollection.

#### V. New orientation for Ecal slabs in end caps

The way to place the slabs inside the Ecal end cap modules is now turned of  $\pi/2$ , in such way the alveolus are longer than before. It avoids projective cracks at (0,0,0) plan, but also it's now possible to configure a correct extra size for the end caps, around ~ 77 mm bigger than the Barrel. The current implementation has to be reviewed in the future, as it was done a bit quickly for this release.

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Subject: Mokka and Geant4 9.1  
Posted by [vogel](#) on Thu, 17 Jan 2008 10:36:56 GMT  
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Good news, everybody!

Geant4 9.1 is out since about a month:

Download

Release Notes

Documentation Update

Everything seems to compile and run fine &#8230; A few new physics lists are available (QGSP\_DIF, QGSP\_BERT\_DIF, QGSC\_BERT, QGS\_BIC, FTFP\_BERT, and FTF\_BIC) which could be added to the &#8220;PhysicsListFactory&#8221;.

Cheers,  
Adrian

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Subject: Birk's law in Mokka  
Posted by [lucaci](#) on Thu, 17 Jan 2008 13:51:26 GMT  
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Hello,  
does anybody know if there is an implementation of the Birk's law in Mokka?

This law describes the scintillator energy response, and it affects all scintillator detectors. I understood that this is implemented in GEANT (see for example <http://www.kph.uni-mainz.de/computing/docu/geant/Geant-HTML/node290.html>), but I do not know if this is the case for Mokka.

Thank you,  
Angela

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Subject: Re: Birk's law in Mokka  
Posted by [vogel](#) on Thu, 17 Jan 2008 14:09:04 GMT  
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Angela wrote: I understood that this is implemented in GEANT but I do not know if this is the case for Mokka.

Hi Angela,

GEANT (in capital letters) and also the year 1993 sound pretty much like the old, Fortran-based GEANT3. The term "Birk" appears neither in the Physics Reference Manual nor in the source code of the current Geant4 release 9.1, but you may want to browse through the Physics Reference to see if the same thing is just named differently.

Cheers,  
Adrian

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Subject: PCB material  
Posted by [lucaci](#) on Wed, 23 Jan 2008 18:52:14 GMT  
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Hello,

can somebody tell me which is the proper material and which radiation length to be used for building a PCB with a given number of layers in Mokka?

Thank you,  
Angela

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Subject: Re: PCB material  
Posted by [mora](#) on Thu, 24 Jan 2008 17:33:41 GMT  
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Hi Angela,

For the calorimeters currently available in Mokka the PCB material is "G10". You can find the radiation length as calculated by Geant4 reading the Mokka output when building the geometry: 16.2 cm.

Cheers,  
Paulo.

---

Subject: Re: Mokka and Geant4 9.1  
Posted by [musat](#) on Thu, 31 Jan 2008 13:52:03 GMT  
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Dear all,

I instantiated the new physics lists in the factory, leaving also the possibility to compile against older Geant4 releases.

Cheers, Gabriel

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Subject: lorentzTransformationAngle  
Posted by [rita](#) on Fri, 22 Feb 2008 17:36:05 GMT  
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Hello,

I am trying to simulate the crab crossing angle, but as soon as I include the command

```
/Mokka/init/lorentzTransformationAngle 7 mrad
```

in my steering file, Mokka gives segmentation fault.

I have tried with different detector model (D14CMOS\_VTX, LDC01\_05Sc and LDC00\_03Rp) with the same result.

The inclusion of the command  
/Mokka/init/globalModelParameter TUBE\_crossing\_angle 14.  
does not change the result either.

I am grateful for any suggestion.

Thanks,

rita

---

Subject: Re: lorentzTransformationAngle  
Posted by [harderk](#) on Fri, 22 Feb 2008 19:11:32 GMT  
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This problem was already fixed by Frank, see Mokka version  
mokka-06-06-pre01 .

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Subject: Hcal Endcaps and Endcap Rings Gear description in SHcalSc01  
Posted by [ralf](#) on Wed, 19 Mar 2008 17:05:47 GMT  
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Hi

today at the optimization meeting it was mentioned that the radii of the endcap and the endcap ring of the new SHcalSc01 are wrong ("too small") in the Gear output file.

Checking the code, I found that the output of Geant and Gear differ. In principle this seems to be alright, since as I understood it the definitions of the radius of Gear and Geant differ: Geant takes the distance from the center to a corner of the octagon as outer radius. Gear takes the distance of the center to the middle of a side of the octagon. So they should differ by a factor of  $\cos(\pi/8)$ , which is taken into account.

But I found in addition a factor of  $\cos(\pi/9)$  for the Gear output of the outer radius in the code (line 476 for the endcaps and line 945 for the endcap rings in SHcalSc01.cc).

When working on the code, I didn't change this, because this was already present in SHcal03 (on which SHcalSc01 is based) and I guessed that with this code the reconstruction already was successfully tested. In fact, I didn't touch this part at all.

But now I wonder where this factor of  $\cos(\pi/9)$  comes from? For me it doesn't make sense, but maybe I miss something...

Does anybody know where it comes from or if it could be deleted?

Thanks in advance for any tips, hints and/or solutions  
Ralf

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Subject: Re: Mokka and Geant4 9.1  
Posted by [jeremy](#) on Fri, 21 Mar 2008 22:46:50 GMT  
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Is there a tagged Mokka release that is Geant4 9.1 compatible?

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Subject: Mokka Makefile bug  
Posted by [jeremy](#) on Fri, 21 Mar 2008 23:19:13 GMT  
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I think that I found a bug in

Mokka/source/Kernel/GNUMakefile.common

This line is wrong because the location for the LCIO headers is incorrect.

```
CPPFLAGS += -DLCIO_MODE -I$(LCIO)/include
```

It should be this.

```
CPPFLAGS += -DLCIO_MODE -I$(LCIO)/src/cpp/include
```

Then everything runs correctly.

Seems like this would break everyone's build unless the headers are being installed into lcio/include by some external script, because LCIO doesn't do this as far as I know.

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Subject: Re: Mokka Makefile bug  
Posted by [jeremy](#) on Fri, 21 Mar 2008 23:56:05 GMT

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Found another bug.

The SIO lib directory is missing in GNUmakefile.common.

```
EXTRALIBS += -L$(LCIO)/lib -llcio -lsio
```

Should be changed to this.

```
EXTRALIBS += -L$(LCIO)/lib -L$(LCIO)/sio/lib -llcio -lsio
```

Not sure how Mokka is being built with these problems in the Makefile.

Are you using the cmake build of LCIO? I suspect that you are using cmake, and it is not using the same directory structure as the original ant build system.

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Subject: Re: Mokka Makefile bug  
Posted by [harderk](#) on Sat, 22 Mar 2008 07:10:36 GMT  
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Hi Jeremy,  
The Mokka Makefile works flawlessly with the cmake build of LCIO.  
(At least if you remember to do "make install" rather than just "make".)  
Cheers,  
Kristian

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Subject: Re: Mokka and Geant4 9.1  
Posted by [vogel](#) on Wed, 26 Mar 2008 11:56:07 GMT  
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Hi Jeremy,

the releases [#8220;mokka-06-04-p01#8221;](#) and later (i. e. [#8220;mokka-06-04-p02#8221;](#),  
[#8220;mokka-06-04-p03#8221;](#), [#8220;mokka-06-05#8221;](#), and  
[#8220;mokka-06-05-p02#8221;](#)) should be compatible with Geant4 9.0, and they also contain  
the physics lists which were added to Geant4 then.

The interface of Geant4 9.1 hasn't changed, so these Mokka releases can also be built

with 9.1. The latest physics lists, however, have only been added to the testing releases mokka-06-06-pre01; and mokka-06-06-pre02;. The next stable release mokka-06-06; should be out soon (i. e. definitely before the LHC starts).

Cheers,  
Adrian

---

---

Subject: Re: Mokka Makefile changes  
Posted by [vogel](#) on Wed, 26 Mar 2008 12:14:55 GMT  
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Hi Jeremy,

just a tiny additional note: There has been a related discussion on the ILD Mokka Discussion; mailing list some time ago, and there was no opposition against the adaption.

Cheers,  
Adrian

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Subject: New release Mokka 06-06  
Posted by [musat](#) on Fri, 18 Apr 2008 10:10:26 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Dear friends,

A new Mokka release Mokka-06-06 is now available for download at

[mokka.in2p3.fr](http://mokka.in2p3.fr)

Cheers, Gabriel

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From release Notes:

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- I. Updating PhysicsListFactory
- II. Bug fix in RunManager class

- III. Geometry fixes to Cern 2007 TB models
- IV. Density bug fix in TBhcal06
- V. Warning for bugs with SEcal02
- VI. New SEcal03 driver
- VII. Improved FieldMap implementation in Field00
- VIII. New Vertex Detector Geometries
- IX. New HCAL superdriver SHcalSc01 and new HCAL sensitive detectors
- X. Improvement of Ecal implementation for TB Cern 2006 models
- XI. Bug fix in VTX-Gear interface
- XII. New steering command setting the MC Run Number of LCEvent
- XIII. Bug fix in TrackSummary w/ SimulatorStatus - isCreatedInSimulation
- XIV. New digital Hcal implementation
- XV. New SilC drivers

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Please note that:

1. This Mokka release co-works with Geant4 9.1 and CLHEP 2.0.3.2  
 (but it is still compatible with previous Geant4 / CLHEP versions)  
 LCIO v01-05, v01-06, v01-07, v01-08-01 or v01-09 (recommended),  
 gcc 3.2.3, gcc 3.4.5 or  
 gcc 4.1.1, SL3 or SL4, optionally with Gear v00-08-02

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#### I. Updating PhysicsListFactory

The PhysicsListFactory can now instantiate the new physics lists that became available with Geant4 9.1 : FTFP\_BERT, QGSC\_BERT, QGSP\_DIF, QGSP\_BERT\_DIF, QGS\_BIC and FTF\_BIC.

A macro was added to test for the Geant4 release in order to allow previous Geant4 releases to be used.

#### II. Bug fix in RunManager class

A fix was made in the method RunManager::RunInitialization() that is aimed to avoid a memory leak while repeating many times the command

/run/beamOn

The fix was also checked when running Mokka in visualization mode.

### III. Geometry fixes to Cern 2007 TB models

Some corrections were added to the drivers TBcatcher06 and TBmuoncount03 in order to remove overlaps between TCMT and Hcal when using nonzero configuration angles.

A bug in the definition of the hit position in all scintillators drivers have also been corrected. Now all the hits are generated in the correct (x,y) position.

### IV. Density bug fix in TBhcal06

The density of the PCB (Printed Circuit Board) material FR4 was corrected to be 1.7\*g/cm<sup>3</sup> (instead of the old incorrect value of 1.025\*g/c,3). The corrected value was taken from <http://pcba10.ba.infn.it/temp/ddd/ma/materials/list.html>.

### V. Warning for bugs with SEcal02 and its sensitive detector SEcalSD02

The released SEcal02 driver has known bugs concerning the hits in the end caps. It's not fixed, as we have to insure backward compatibility with the models using it (LDC01\_05Sc and LDCPrime\_01Sc). Users should avoid using these models.

### VI. New SEcal03 driver and sensitive detector SEcalSD03

The new SEcal03 driver and its sensitive detector fix the known bugs with SEcal02 and SEcalSD02. Moreover, the Si cells in wafers are now forced to be squared. The Ecal\_cells\_size parameters is understood as a hint. Depending on the Ecal\_Barrel\_halfZ, Ecal\_barrel\_number\_of\_towers, Ecal\_lateral\_face\_thickness and a lot of other parameters, the SEcal03 driver adjust the cell size to have a integer number of identical cells in theta Z direction. Then, it forces the same value for the X direction. The same values are used for the end cap slabs.

The new SEcal03 driver fix also another bug, which let to not propagate correctly the z\_begin value for the LCal01 driver.

## VII. Improved FieldMap implementation in Field00

FieldMap implementation was changed in class Field00 and thus the CPU time was reduced by about 2.5 - 3 %.

## VIII. New Vertex Detector Geometries

Three new Vertex Detector geometries VXD03, VXD03\_sensin and VXD04 are implemented in this release. These geometries are realistic and flexible description of :

- 5 layer LDC like vertex detector (VXD03)
- 5 layer LDC like vertex detector with sensors placed at the bottom of the support ladder (VXD03\_sensin)
- 3 double layer GLD like vertex detector (VXD04).

These three geometries are based on the ladder description for LOI decided by the worldwide VTX community. Nevertheless these geometries are very flexible thanks to free parameters that can be set in the Mokka steering file.

The user can change on fly :

- The radius of each layer.
- the 5 layers can be modified for the VXD03 and the VXD03\_sensin geometries
- the 3 double layers radius and the gap between paired layer for the VXD04 geometry
  - The thickness, and the kind of material of the ladder support
- The length, the width and the thickness of the silicon active part
- Presence or not of electronic and the end of the ladder and/or/not side band structure along the ladder
- thickness and length of the ladder end electronic
- thickness and width of side band structure
- The side band structure can be switch on as a sensitive part of the detector
- The VXD is surrounded by a cryostat or not.

The optimal number of ladder per layer are calculated automatically when radius and width of the layer are changed.

The following list give the different parameters that can be modified in the steering file.

Common parameters for all the VXD geometries :

VXD\_support\_ladder\_thickness

VXD\_support\_ladder\_material

VXD\_active\_silicon\_thickness

VXD\_cryostat\_option

VXD\_side\_band\_electronics\_thickness

VXD\_side\_band\_electronics\_width

VXD\_side\_band\_electronics\_option

VXD\_end\_ladd\_electronics\_option

VXD\_end\_ladd\_electronics\_half\_length

VXD\_end\_ladd\_electronics\_thickness

VXD\_active\_side\_band\_electronics\_option

Specific parameters for the VXD03 and VXD03\_sensin:

VXD\_width\_r1 (this is the width of the silicon active part)

VXD\_width\_r2

VXD\_width\_r3

VXD\_width\_r4

VXD\_width\_r5

VXD\_length\_r1 (this is the length of the silicon active part)

VXD\_length\_r2

VXD\_length\_r3

VXD\_length\_r4

VXD\_length\_r5

VXD\_inner\_radius

VXD\_radius\_r2

VXD\_radius\_r3

VXD\_radius\_r4

VXD\_outer\_radius

Specific parameters for the VXD04 :

VXD\_width\_r1 (this is the width of the silicon active part)

VXD\_width\_r3  
VXD\_width\_r5

VXD\_length\_r1 (this is the length of the silicon active part)  
VXD\_length\_r3  
VXD\_length\_r5

VXD\_inner\_radius  
VXD\_radius\_r3  
VXD\_radius\_r5

VXD\_layer\_gap

Furthermore, users have to use the TUBE02 description of the beampipe because the modification of the inner most layer will modified the radius of the beampipe. Indeed the inner most most layer is mechanically linked to the beampipe.

The distance of the inner most layer and the beampipe is fixed at 1 mm. The use can also modified the beampipe thickness in the steering file using the parameter : TUBE\_central\_thickness.

## IX. New HCAL superdriver SHcalSc01 and new HCAL sensitive detectors

SHcalSc01 is a new HCAL superdriver containing only the scintillator option. An additional gap is introduced in the middle of the staves, in order to get a little bit more realistic description of the detector. As a consequence, the HCAL layers are divided into 2 halves (in the left and right side of a stave). The layers have now an aluminium support. There are also 4 pointing cracks in the endcaps and in the endcaps rings. The Hcal\_cells\_size is now by default 3. In the barrel, a special algorithm is applied to deal with fractional cells at the edges of a layer. The algorithm is applied in the barrel's sensitive detector (SDHcalBarrel) and takes care that the fractional tiles always have the size  $> \text{Hcal\_cells\_size}/2$  and  $< \text{Hcal\_cells\_size}$ . The endcaps still have integer cells, with problems at the edges.

New parameters are introduced:

Hcal\_chamber\_thickness = thickness of the HCAL chambers; default value 6.5 mm

Hcal\_layer\_support\_length = x-length of the HCAL layer support in the barrel;  
default value 5 mm

Hcal\_layer\_air\_gap = gap between layer support and scintillator in the HCAL barrel;

default value 2 mm

Hcal\_middle\_stave\_gaps = gap in the middle of the HCAL barrel staves;  
default value 3 mm

Hcal\_apply\_Birks\_law =1 apply Birks law to the HCAL scintillator response, =0 do not  
apply Birks law; default value 1.

This parameter is given as a parameter to the constructor of  
the HCAL sensitive detectors.

New sensitive detector classes:

- SDHcalBarrel: HCAL barrel sensitive detector, contains fractional tile algorithm  
and applies Birks attenuation law to the energy deposition, if  
Hcal\_apply\_Birks\_law is 1
- SDHcalEndcaps: HCAL endcaps and endcaps rings sensitive detector,  
applies Birks attenuation law to the energy deposition, if  
Hcal\_apply\_Birks\_law is 1

New class: the G4 class G4EmSaturation was provided by Vladimir IVANTCHENKO (CERN),  
and it is used for the Birks law. It should come with the next GEANT4 release. Until  
then, we just keep a copy of it.

A new encoder: Encoder32Hcal was necessary, since we needed an additional bit for  
the stave id. The stave id is now 16 instead of 8. An odd stave id (1, 3, ...)  
indicates that we have a hit in the left half of a stave, whereas an even stave id  
(2, 4, ...) indicates a hit in the right part of a stave. The bits available for the  
layer id were also increased by 1, in the idea that somebody would like to go later  
to a larger number of HCAL layers (>64), for testing purposes.

## X. Improvement of Ecal implementation for TB Cern 2006 models

Independent Y shifts of the 2 Si layers of each slab were implemented in the  
new driver Proto04\_02. This driver is connected to 2 new DB's  
(ProtoCern0806\_02 and ProtoCern1006\_02) having a new table 'si\_layers'  
that stores the Y shifts of all layers (maximum allowed shift is +/- 0.2 mm)

Usage within a full TB model:

```
/Mokka/init/detectorModel TBCern1006_01_dchxy_new  
/Mokka/init/EditGeometry/rmSubDetector ProtoCern1006_01  
/Mokka/init/EditGeometry/addSubDetector ProtoCern1006_02
```

Usage of Ecal alone:

```
/Mokka/init/subDetector ProtoCern0806_02
```

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#### XI. Bug fix in VTX-Gear interface

The definition of phi0 and offset have been clarified in gear v00-08-02:  
phi0: azimuthal angle of (outward pointing) normal of first ladder in layer  
offset: shift of every ladder in the direction of increasing phi

modified VXD01.cc, VXD02.cc, VXD03.cc , i.e. also older models will create a slightly different gear file (phi0 and offset)

-> use gear v00-08-02 or higher for everything to be consistent

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#### XII. New steering command setting the MC Run Number of LCEvent

A new steering command was added to set the Monte Carlo run number of every LCEvent:

/Mokka/init/mcRunNumber

This is different than the previously created Calice specific command:

/Mokka/init/dataRunNumber

that was aimed to write the number of the Test Beam run corresponding to the simulation run.

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#### XIII. Bug fix in TrackSummary w/ SimulatorStatus - isCreatedInSimulation

ensure that the bit LCIO::BITisCreatedInSimulation in the SimulatorStatus is only set if the MCParticle actually has been created in Mokka/geant4

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#### XIV. New digital Hcal implementation

Thanks to Emmanuel Latour, a new implementation of Digital Hcal is available as sub-detector SHcal04. Only barrel modules are changed, the EndCaps and EndCapRings are the same as in previous models. A detailed description can be found at:

<http://polzope.in2p3.fr:8081/MOKKA/detector-models/ldc/DHCAL doc.pdf>

=====

#### XV. New SiIC drivers

Thanks to Valeri Saveliev, all SI inner track devices have a new implementation following the SiIC designs. It concerns the Sit, the Ftd, the Etd as well the first implementation for the Set device. It concerns the SSit02, SFtd04, SEtd01 and SSet01 super drivers which use the sit02, ftd01, etd01 and set01 new basic drivers.

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Subject: Changes of the names of LDC models  
Posted by [musat](#) on Fri, 18 Apr 2008 12:53:34 GMT  
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Dear friends,

People that had contributed to the last two Mokka LDC models decided to rename them as follows:

- rename LDC01\_06Sc\_test as LDC01\_06Sc\_p01

and

- rename LDCPrime\_02Sc\_test as LDCPrime\_02Sc\_p01

leaving both "unstable".

The DB models03 on pollin1 was updated with respect to these decisions.

Cheers, Gabriel

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Subject: Lorentz trasformation angle again  
Posted by [rita](#) on Thu, 15 May 2008 14:57:24 GMT  
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Hello,

I have a question concerning the usage of the /Mokka/init/lorentzTransformationAngle command in Mokka-06-06  
The model LDCPrime\_02Sc\_p01 include the parameter  
ILC\_Main\_crossing\_angle = 14 mrad.

I guess I should still use  
/Mokka/init/lorentzTransformationAngle 7 mrad  
in order to boost the generated particles, but could, please, someone confirm that?

Thank you,

rita

---

Subject: Re: Lorentz transformation angle again  
Posted by [NormanGraf](#) on Thu, 15 May 2008 15:01:40 GMT  
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Hello Rita,

You are correct. The crossing angle refers to the combined angle between the beamlines. You should only boost by half that amount.

Norman

---

Subject: Re: Lorentz trasformation angle again  
Posted by [vogel](#) on Thu, 15 May 2008 15:12:44 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Idle> help /Mokka/init/lorentzTransformationAngle

Command /Mokka/init/lorentzTransformationAngle

Guidance :

Specify the angle for the Lorentz transformation of primary particles.  
This angle corresponds to half the beam crossing angle.

Parameter : Angle

Parameter type : d

Omittable : False

Parameter : Unit

Parameter type : s

Omittable : True

Default value : mrad

Candidates : rad mrad sr deg radian milliradian steradian degree

You are absolutely right!

Cheers, A

---

Subject: Re: Lorentz trasformation angle again  
Posted by [rita](#) on Thu, 15 May 2008 16:10:38 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Thank you!

---

Subject: New release Mokka 06-06-p01  
Posted by [musat](#) on Wed, 21 May 2008 11:15:39 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Dear friends,

New release Mokka 6.6.p01 is available for download at the usual address: mokka.in2p3.fr.

Please note that the last two LDC/LDCPrime models have been renamed to LDC01\_06Sc and LDCPrime\_02Sc and their status was set to 'frozen'.

Cheers,  
Gabriel

From Release Notes:

=====  
New tag mokka-06-06-p01

What is new in this Mokka release  
=====

- I. New steering commands available to change FieldManager parameters
- II. New FTD self scaling FTD Driver SFtd03

=====  
Please note that:

- 1. This Mokka release co-works with Geant4 9.1.p02 and CLHEP 2.0.3.2 (but it is still compatible with previous Geant4 / CLHEP versions) LCIO v01-05, v01-06, v01-07, v01-08-01 or v01-09 (recommended), gcc 3.2.3, gcc 3.4.5 or gcc 4.1.1, SL3 or SL4, optionally with Gear v00-08-02

- =====  
I. New steering commands available to change FieldManager parameters

Two new steering commands were implemented to change the parameters DeltaIntersection and DeltaOneStep of the FieldManager:  
They can be used in the steering file, like, for example:

```
/Mokka/init/userDeltaIntersection 3e-5 mm  
/Mokka/init/userDeltaOneStep 3e-4 mm
```

- II. New FTD self scaling FTD Driver SFtd03

It is a self scaling driver where the z positions of the disks are set relative to the length of the TPC and the inner radius of the disks are

calculated as a function of the beamtube opening angle.

The TUBE\_opening\_angle is used, though this does not affect the actual beam tube in Mokka, as that does not take this value as a parameter, nor does it attempt to set it. The actual opening angle of the section of the beam tube lying directly under the FTD in the Mokka model LDC01\_06Sc has a tangent of 0.07876. As the value of TUBE\_opening\_angle will be set to 0.092 the FTD will not suffer any geometric overlap with the beam tube and the inner radii will be of the desired size, not a great solution but at least safe for now.

There are values for cable shield thickness, cable thickness and outer support cylinder thickness in the Database.

---

Subject: Mokka warning: track killed due to high number of steps  
Posted by [lucaci](#) on Fri, 06 Jun 2008 10:54:54 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hello,  
I'm producing some events with the LDCPrime\_02Sc model,  
and I've noticed a Mokka warning:

MOKKA WARNING: number of steps > 100000, this track will be killed right now.

Is this a reason to worry?

Thank you,  
Angela

---

Subject: Re: Mokka warning: track killed due to high number of steps  
Posted by [mora](#) on Mon, 09 Jun 2008 13:42:09 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hi Angela,

Mokka kills tracks which number of steps > 100000 to avoid waisting CPU time with low energy charged particles looping into TPC.

Cheers,  
Paulo.

---

---

Subject: HCAL number of layers and yoke with plug  
Posted by [lucaci](#) on Tue, 10 Jun 2008 10:30:05 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello,  
by default, the HCAL is build with 48 layers. However, in principle, it is possible to increase this number to 64. But this only in principle, since if one tries to increase it, when building the yoke, there is not enough place for building the plug. The error message that you get with:

```
/Mokka/init/globalModelParameter Hcal_nlayers 49
```

is:

```
=====> MOKKA ABORTING <=====
Yoke03: Plug thickness negative or thinner then 5 layers of rpc !
Check the geometry! Sorry for abort :(
```

I've been looking around to see where this comes from. It seems that the z-start of the yoke endcap does not take into account if we increase the HCAL layers or not. It is set in SCoil01.cc to be:

```
zStartEndcap = z_limit = TPC_Ecal_Hcal_barrel_halfZ + Coil_extra_size + 350 = 4200
```

In my opinion, this z does not include the HCAL endcaps, which have the same number of layers as the barrel, that is Hcal\_nlayers. For whatever reason (probably due to hardcode number of 350), this works for the default 48 layers, but not for more (or for less layers, but thicker).

As a consequence, the plug thickness, which is defined in Yoke03.cc as:

```
plug_thickness = zStartEndcap - HCAL_z - Hcal_plug_gap
```

is too thin (not enough for 5 layers).

zStartEndcap is set to 4200 in SCoil00.cc, whereas HCAL\_z changes , as it should, with the number of HCAL layers, and Hcal\_plug\_gap is constant.

Can anybody tell me which is the correct solution for increasing the HCAL layers, such that the Yoke does not crash?

Thank you in advance,  
Angela

---

---

Subject: Re: HCAL number of layers and yoke with plug  
Posted by [mora](#) on Tue, 10 Jun 2008 15:59:33 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Angela,

If you don't need the muon chambers, and probably it's true the time being, a quick solution is just to drop the yoke. You can do it easily adding the line

```
/Mokka/init/EditGeometry/rmSubDetector yoke03
```

to your steering file. Of course a better solutions should be provided in the future.

Cheers,  
Paulo

---

---

Subject: Setting pre-init variables  
Posted by [jabernathy](#) on Mon, 23 Jun 2008 08:31:46 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello all,

I was trying to execute the following commands in my macro file:

```
/Mokka/init/lcioWriteMode WRITE_NEW  
/Mokka/init/lcioFilename last_run.slcio
```

but I keep getting an error when the macro file is executed:

```
***** Illegal application state </Mokka/init/lcioWriteMode WRITE_NEW> *****
```

Delving into the source code reveals that these commands are declared to be run in the phase G4State\_PreInit.

Using the command line the lcio filename can be specified with the -l command but I couldn't find an option for changing the lcio write mode.

What is the proper method of executing pre-init commands?

Thanks in advance

---

---

Subject: Re: Setting pre-init variables  
Posted by [musat](#) on Mon, 23 Jun 2008 08:58:29 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi,

The commands you showed are steering commands, that should be placed in a steering file (say 'mokka.steer'), that should be used like this:

```
Mokka mokka.steer
```

(these commands shouldn't be placed inside a macro file).

The steering file is processed at the beginning, before the detector geometry is built. The macro file commands are executed after that.

Cheers, Gabriel

---

---

Subject: Re: Setting pre-init variables  
Posted by [jabernathy](#) on Tue, 24 Jun 2008 21:22:12 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

That worked perfectly, thanks!

---

---

Subject: IcioDetailedTRKHitMode  
Posted by [rita](#) on Wed, 09 Jul 2008 17:27:40 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello,

I am quite puzzled from an effect I see in my simulations.

I used the command  
/Mokka/init/IcioDetailedTRKHitMode VXDCollection  
in order to get the distance travelled in the sensitive part of VXD .

I use Mokka0606 and detectorModel LDCPrime\_02Sc\_p01, where each layer of the VXD is defined with a sensitive thickness of 50um of silicon (checked to be correct in the Gear file).

I generated high energy muons at theta=90 degrees and uniformly in phi. The "minimum" pathlength I get is 100um and not the 50um I should expect. Additionally I get also some percent of the events with very short pathlength, ranging from 0 to 100um, even for events which are primaries, thus should in principle cross all the sensitive volume of the VXD layer.

has anyone an idea of what that is?

Thank you for the help,

rita

---

Subject: Re: IcioDetailedTRKHitMode  
Posted by [piotrek](#) on Thu, 04 Sep 2008 12:29:42 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hi,

This is a bug in TRKSD00 class. The last step length is added twice in UpdateHit() and in DumpHit() to a Mokka-hit-length. If there is only one Geant-step in a layer then Mokka-step-length = 2\*Geant-step-length. I have written info about it in Mokka "issues tracker":  
<http://polzope.in2p3.fr:8081/MOKKA/issues-tracker/4>

Best regards,  
Piotr Niezurawski

---

Subject: Scheduled shutdown at LLR  
Posted by [mora](#) on Fri, 07 Nov 2008 14:40:25 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Dear all,

We'll have a scheduled shutdown for electric maintenance on our machine's room, starting the next Sunday 9th November at 20:00 till Monday 10th, 16:00. It includes the Mokka cvs and DB servers.

Sorry for this inconvenience,  
Paulo.

---

Subject: New release Mokka 06-07  
Posted by [musat](#) on Thu, 13 Nov 2008 16:57:46 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Dear friends,

New release Mokka 6.7 is available for download at the usual address: [mokka.in2p3.fr](http://mokka.in2p3.fr).

Cheers,  
Gabriel

From Release Notes:

=====  
New tag mokka-06-07  
=====

What is new in this Mokka release  
=====

I. New detector model ILD\_00

- I.1) New HCAL superdriver SHcalSc02
- I.2) New LHcAL superdriver SLcal01
- I.3) New LCAL superdriver SLcal02
- I.4) New implementation for Yoke and coil
- I.5) New Bcal superdriver SBcal01 using BeamCal00 and BeamCalSD00
- I.6) New FTD self scaling driver
- I.7) New SIT self scaling driver
- I.8) New SET self scaling driver
- I.9) New ETD self scaling driver

II. Bug fix in TRKSD00

- III. New TB models for Cern 2007 and FNAL 2008
- IV. moved CGAGearDistanceProperties and CGAGearPointProperties from gear to Mokka ( libMokkaGear.a )
- V. fix for reading problematic stdhep files
- VI. new command /Mokka/init/lcioEventParameter to be used for cross section and processID

=====  
=====

Please note that:

- 1. This Mokka release co-works with Geant4 9.1.p02 and CLHEP 2.0.3.2 (but it is still compatible with previous Geant4 / CLHEP versions)  
LCIO v01-10-03 (needed !!)  
gcc 3.2.3, gcc 3.4.5 or  
gcc 4.1.1, SL3 or SL4, optionally with Gear v00-11

=====  
=====

I. New detector model ILD\_00

A new model 'ILD\_00' was created for the ILD simulation baseline reference detector. It is based on the detector parameters discussed at Cambridge and in the current DRAFT ILDReference document ([www.ilcild.org](http://www.ilcild.org)).

One needs this version of Mokka and a GEAR version v00-11 to use this model (gear now has parameters for the coil, lhcal and the Yoke).

The following detector drivers are updated or new implementation:

I.1) New HCAL superdriver SHcalSc02 (Angela Lucaci)

It's a new HCAL superdriver with modified endcaps as in the Tesla design, that is with a square hole in the middle, and cracks along the square borders. The basic endcap stave is a union of a box and a right wedge.

The modified geometry needed a new sensitive detector class for the HCAL endcaps: SDHcalEndCapTesla.

Note that this is used only for the endcaps. The HCAL rings still use the old class SDHcalEndCap.

In the endcaps, the HCAL layers are perpendicular to the z-axis. In the x-y plane, the virtual tiles are square, with the dimensions 30x30 mm<sup>2</sup>. Hits in tiles which are not fully contained in the sensitive volume are rejected. The counting of the I and J cell coordinates starts from the lower left corner of the stave, in the x-y plane. The notation of the staves is the same as in the old geometry (for more details, see <http://www-flc.desy.de/lcnotes/notes/LC-TOOL-2008-001.pdf>)

## I.2) New LHcal superdriver SLHcal01

This new super driver implements the LHcal as a parallelepiped volume, with size = 330.6 mm, 525 mm long. It's placed inside the Hcal end cap (30 mm after the end cap entering boundary). Its central hole is a cylinder which is not centered, but which should follow the crossing angle to avoid overlapping the beam pipe.

The LHcal has 40 W layers of 10 mm, behind each one a Si sensitive layer almost as the Ecal rings. For this reason SLHcal01 reuses the same sensitive detector implemented for the Ecal rings. The only difference is that the SLHcal01 has not a pre-shower layer. For this reason SLHcal01 depends on the Ecal slab parameters, as it's almost the same technology.

SLHcal01 depends on the following global parameters, with the current values for the ILD\_00:

Ecal\_Alveolus\_Air\_Gap = 0.25  
Ecal\_Si\_thickness = 0.5  
Ecal\_Slab\_PCB\_thickness = 0.8  
Ecal\_Slab\_copper\_thickness = 0.2  
Ecal\_Slab\_glue\_gap = 0.1  
Ecal\_Slab\_ground\_thickness = 0.05  
Ecal\_Slab\_shielding = 0.15  
Ecal\_fiber\_thickness = 0.2

Hcal\_endcap\_center\_box\_size = 700.0  
 Hcal\_endcap\_zmin = 2670.7  
 LHcal\_Electronics\_space = 19.4  
 LHcal\_cell\_size = 10  
 LHcal\_inner\_radius = 93  
 LHcal\_lateral\_face\_thickness = 10  
 LHcal\_nlayers = 40  
 LHcal\_radiator\_thickness = 10  
 LHcal\_zmin\_displacement = 30  
 TUBE\_crossing\_angle = 14

Currently SLHcal01 exports the following parameters, with the current values for the ILD\_00:

LHcal\_zend = 3225.7

### I.3) New LCAL superdriver SLcal02 (B. Pawlik)

SLcal02 superdriver does not have database, only parameters.

For actual build of LCAL LumiCalX subdriver is used.

SLcal02 sets the z-position of LCAL (Lcal\_z\_begin parameter) according to the value of the Ecal\_endcap\_zmax. It also assures that outer radius of LCAL ( Lcal\_outer\_radius parameter) is consistent with inner radius of ECAL endcap plug. It checks whether length of LCAL fits into space in ECAL endcup.

Parameters known to SLcal02 are :

name	default value	comment
Lcal_z_begin	3050 mm	
Lcal_inner_radius	80.0 mm	
Lcal_outer_radius	195.2 mm	
Lcal_n_layers	30	
Lcal_phi_offset	0. deg	
Lcal_tungsten_thickness	3.5 mm	thickness of absorber
Lcal_support_thickness	0.2 mm	fanout,interconnection plane thickness
Lcal_silicon_thickness	0.32 mm	silicon sensor
Lcal_layer_gap	0.25 mm	clearance between LCAL planes
Lcal_nstrips_theta	64	radial segmentation
Lcal_nstrips_phi	48	number of phi sectors

SLcal02 needs also following 'exetrnal' parameters normally set SEcal03 superdriver.

Ecal\_Lcal\_ring\_gap - clearance between LCAL and ECAL endcap PLUG  
Ecal\_endcap\_zmax  
Ecal\_endcup\_zmin  
Ecal\_endcap\_plug\_rmin  
ILC\_Main\_Crossing\_Angle

The default values of parameters above, can be changed by user at run time with the card:

```
/Mokka/init/globalModelParameter "parameter_name" value
```

NOTE: Functionality of changing Lcal\_z\_begin, and Lcal\_outer\_radius at run time is limited in case ECAL is build.

#### I.4) New implementation for Yoke and Coil (F. Gaede)

Scoil02.cc:

- replace hardcoded values by parameters:

Hcal\_Coil\_additional\_gap, Coil\_Yoke\_radial\_clearance and  
Coil\_Yoke\_lateral\_clearance

Yoke04.cc

- added barrelEndcapGap, gear parameters, made barrel and endcap same thickness, made plug insensitive

- changed outer r of yoke plug to be aligned with hcal endcap

#### I.5) New Bcal superdriver SBcal01 (A.Hartin)

- first implementation, code from Fcal collaboration,
  - \* position of sensitive layer corrected
  - \* several constants moved to beamcal table
  - \* superdriver by A. Saproinov, A. Rosca and A. Popescu
  - \* implemented in Mokka by A. Hartin and S. Aplin, Oct 2008

#### I.6) New FTD self scaling driver SFtd04.cc (S. Aplin)

Implementation of a self scaling 7 disk FTD first 3 Disks are Si-pixel technology  
last 4 Disks are Si-strip technology Support material Kapton

All disks:

Dimensions and co-ordinates are specified for the sensitive layer, support disks are built on to these inner\_radius = ( beamTubeRadius + beamTubeClearance)

First Disk:

z defined by distance from end of VTX layer 3 outer r defined by radial difference to SIT layer 1

Second Disk:

z defined relative to TPC half-length: to ensure positioning with SIT set these numbers to the same value in DB outer r defined by radial difference to SIT layer 1

Third Disk:

z defined relative to TPC half-length: to ensure positioning with SIT set these numbers to the same value in DB outer r defined by radial difference to SIT layer 1

Fourth, Fifth and Sixth Disk: z defined relative to TPC half-length outer r defined by gap between TPC inner radius and FTD disks

Last Disk:

z defined by distance from front of ECal Endcap outer r defined by gap between TPC inner radius and FTD disks

The energy threshold to produce a hit has been set at 20% of a MIP for the thinnest disk.

Parameters Set in Model Parameter DB Table:

TPC\_Ecal\_Hcal\_barrel\_halfZ

Ecal\_endcap\_zmin

TPC\_inner\_radius

VXD\_length\_r3

Parameters shared with other drivers:

SSit03:SIT1\_Half\_Length\_Z

SSit03:SIT2\_Half\_Length\_Z

SSit03:SIT1\_Radius

SSit03:SIT2\_Radius

TubeX01:TUBE\_IPOuterTube\_end\_z

TubeX01:TUBE\_IPOuterTube\_end\_radius

TubeX01:TUBE\_IPOuterBulge\_end\_z

TubeX01:TUBE\_IPOuterBulge\_end\_radius

I.7) New SIT self scaling driver SSit03.cc ( S. Aplin )

The radius of the sensitive layer of the outer layer is defined by the distance to the TPC inner radius. The radius of the sensitive layer of the inner layer is defined by the relative position between the SIT outer layer and the VTX outer layer.  
Half-lengths in z are defined relative to the TPC ECal barrel length

#### I.8 ) New SET self scaling driver SSet02.cc ( S. Aplin )

The SET is composed of two support backed silicon layers.

The radius of the outer layer is specified by the distance to the min Radius of the ECal Barrel. The radius of the inner layer is specified by the radial distance between the two layers. Both layers have the same Half-length as the TPC

#### I.9) New ETD self scaling driver ( S. Aplin )

The inner radius of disks defined by the radial clearance between the ETD and ECal-EndCap Plug outer radius of disks defined by radial difference from the TPC outer radius z positions are given by the distance between the last ETD sensitive layer and the ECal-EndCap face plus layer separation and thickness.

### II. bug fix in TRKSD00

Piotr Niezurawski noticed that the sensitive detector implemented in class TRKSD00 had a bug, as described by him at:

<http://polzope.in2p3.fr:8081/MOKKA/issues-tracker/4>

This class, originally designed to work with the first versions of the TPC, was then adopted by many other sub-detectors: ETD, FTD, SET, SiT, VXD.

Piotr made a correction of this bug, the class was renamed to TRKSiSD00 and the necessary corrections were made to all VXD drivers so that they now use this new class.

### III. New TB models for Cern 2007 and FNAL 2008

We have 3 new models for TBCern 2007, that have the new DCHs implementation

made by Fabrizio Salvatore (like the Desy/FNAL DCHs, i.e. with one single hit collection and each chamber sub-divided in two halves, one for x-hits and one for y-hits). Their names are:

TBCern07\_dchxy\_01 (with the ideal Ecal),  
TBCern0707\_dchxy\_01 (with the Ecal in July 07 config), and  
TBCern0807\_dchxy\_01 (with the Ecal in the August 07 config).

An implementation was made for the TB setup at FNAL, the first period of '08, except the wire chambers and the detectors before them.  
The model name is TBFnal0508

IV. moved CGAGearDistanceProperties and CGAGearPointProperties from gear to Mokka ( libMokkaGear.a ) (F.Gaede)

moved the code from GEAR to Mokka in order to remove circular dependency

V. fix for reading problematic stdhep files (M.Berggren, F.Gaede)

Fix in HepLCIOInterface for reading problematic stdhep files with FSR on mu and tau leptons. These files caused double counting of the leptons in older versions of Mokka. The old behaviour can be restored with:

```
/Mokka/init/FixStdHepLeptonFSR false
```

Note: the generator status of 'documentation' type particles that are not presented to geant4 is increased by 100, e.g if the particle had genstat 2 it will have genstat 102 after processing

VI. new command /Mokka/init/IcioEventParameter (F.Gaede)

this command allows to specify constant parameters in the steering file that are then added to every LCIO event, eg.

```
/Mokka/init/IcioEventParameter float CrossSection_fb 1234.56  
/Mokka/init/IcioEventParameter string Process e3e3h_250_ep+1.0_em-1.0  
/Mokka/init/IcioEventParameter int ProcessID 42
```

---

Subject: problems with mokka in v01-04  
Posted by [iglesias](#) on Wed, 03 Dec 2008 15:53:42 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello:

I have installed the release v01-04 successfully except the mokka package. When I run the script installation I obtain the next error message:

```
***** Installing software *****
```

```
#####  
#####  
##### Compiling Mokka version mokka-06-06-p03...  
#####  
#####
```

```
----- adding additional commands to build_env.sh :
```

```
----- adding additional command to build_env.sh . ${G4ENV_INIT}
```

In your environment you have the G4WORKDIR=/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/Mokka/mokka-06-06-p03

```
make[1]: Entering directory `/mnt/data2/ilcsoft/ilcinstall_prueba/ilcinstall/my_v01-04/Mokka/mokka-06-06-p03/source/Geometry/Calice'
```

```
make[1]: Nothing to be done for `all'.
```

```
Using granular libraries ...
```

```
Linking Mokka ...
```

```
/mnt/data2/ilcsoft/ilcinstall_prueba/ilcinstall/my_v01-04/Mokka/mokka-06-06-p03/tmp/Linux-g++/Mokka/exe/Mokka.o: In function  
`G4VisExecutive::RegisterGraphicsSystems()':  
Mokka.cc:(.text+0x395): undefined reference to `G4RayTracerX::G4RayTracerX()'  
collect2: ld returned 1 exit status  
make[1]: *** [/mnt/data2/ilcsoft/ilcinstall_prueba/ilcinstall/my_v01-04/Mokka/mokka-06-06-p03/bin/Linux-g++/Mokka] Error 1  
make[1]: Leaving directory `/mnt/data2/ilcsoft/ilcinstall_prueba/ilcinstall/my_v01-04/Mokka/mokka-06-06-p03/source/Kernel'  
make: *** [all] Error 2
```

```
*** ERROR in module [ Mokka ]: Required file not found:
['/mnt/data2/ilcsoft/ilcinstall_prueba/ilcinstall/my_v01-04/
Mokka/mokka-06-06-p03/bin/Linux-g++/Mokka']
```

And If I see in the /ilcinstall/my\_v01-04/Mokka/mokka-06-06-p03/ directory it seems thar all the files have been installed except the Mokka file in the /bin/Linux-g++/ directory.

What is happening?

Regards

Carmen

P.D: In my script I put:

```
ilcsoft.install( Mokka( ilcPath + "v01-04/Mokka/mokka-06-06-p03" ))
```

and I have also tested with another options, (but I obtain the same error message)

```
ilcsoft.install( Mokka( "mokka-06-06-p03" ))
```

---

Subject: Any tools for modifying the Geometry database?

Posted by [fengy](#) on Fri, 12 Dec 2008 04:45:11 GMT

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Hi,

I am confused by the database used by Mokka.

Is tweaking the bare database schema and entries the only way to modify the geometry of a given detector?

How do I add new detector designs into my local database?

If I'll have to do it by hand, are there any documents about the database? i.e, an ER diagram for the entire databases?

Thank you.

Yu

Subject: Re: Any tools for modifying the Geometry database?  
Posted by [mora](#) on Fri, 12 Dec 2008 09:00:33 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Yu,

We are sorry, a good Mokka documentation is really missing. The time being we are putting all our efforts on developing the detectors models simulated with Mokka. Anyway you can find a lot of useful information concerning how to add a new detector design into your local database at the excellent Web page developed by Adrian Vogel at address

<http://www.desy.de/~vogel/>

I hope it could help you.

Cheers,  
Paulo.

---

Subject: Re: problems with mokka in v01-04  
Posted by [engels](#) on Wed, 07 Jan 2009 09:36:04 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Carmen,

the problem seems to be some incompatibility between the Mokka and the Geant4 versions..  
What Geant4 version are you using?

Are you using the desy afs installation @ /afs/desy.de/group/it/ilcsoft/v01-04 ?

Cheers,  
Jan

---

Subject: Re: problems with mokka in v01-04  
Posted by [iglesias](#) on Thu, 08 Jan 2009 09:52:45 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello:  
This is that i have put in my installation script about Geant4:

# Geant 4

```
ilcsoft.link( Geant4 ( ilcPath + "geant4/9.1" ))
ilcsoft.module("Geant4").env["G4ENV_INIT"] = ilcPath + "geant4/env_9.1.sh"
```

Is that correct?

Carmen

Subject: Re: problems with mokka in v01-04  
Posted by [engels](#) on Thu, 08 Jan 2009 14:56:08 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hi Carmen,

yes, that should be correct if you are using sl3 or sl4 machine..

could you try erasing your Mokka directory  
(/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/Mokka/) and rerun ilcsoft-install with the same configuration file to check if the error still persists?

Cheers,  
Jan

Subject: Re: problems with mokka in v01-04  
Posted by [iglesias](#) on Mon, 12 Jan 2009 13:03:29 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hello:

If I erase the mokka directory and rerun ilcsoft-install I obtain at the end, the next error message:

```
[iglesias@fpmac116 ilcinstall]$ ./ilcsoft-install -i my_install_v01-04.cfg
```

```
***** Starting installation *****
```

```
+ Read configuration file [ my_install_v01-04.cfg ]
```

+ Initialize modules...

+ Check for previous installations...

- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/lcio/v01-10-01] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/Marlin/v00-10-03] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/CEViewer/v00-06] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/LCFIVertex/v00-02-07-dev] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/SiliconDigi/v00-04-01] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/Overlay/v00-02] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/Electroscope/v00-00-06] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/MarlinTPC/v00-02-06] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/StandardConfig/v00-06-00] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/MarlinReco/v00-10-04] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/PandoraPFA/v02-03-00] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/MarlinUtil/v00-11] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/LCFI\_SGVbasedNets/v00-01] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/CE/v00-05] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/lccd/v00-03-06] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/RADA/v01-04-02] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/CMake/2.4.6] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/CondDBMySQL/CondDBMySQL\_ILC-0-5-10] installation status: OK - set to use mode
- + [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/CMakeModules/v01-07] installation status: OK - set to use mode

status: OK - set to use mode

+ [/mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/geant/v00-09] installation status: OK - set to use mode

+ Dependencies Pre-Check...

+ Dependencies Check...

+ Dependencies Post-Check...

\*\*\*\*\* Starting ILC Software installation process \*\*\*\*\*

\*\*\*\*\* Creating symlinks \*\*\*\*\*

+ Linking /mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/root/5.16.00 -> /afs/desy.de/group/it/ilcsoft/root/5.16.00

+ Linking /mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/geant4/9.1 -> /afs/desy.de/group/it/ilcsoft/geant4/9.1

+ Linking /mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/cernlib/2006 -> /afs/desy.de/group/it/ilcsoft/cernlib/2006

+ Linking /mnt/data2/ilcsoft/ilcinstall\_prueba/ilcinstall/my\_v01-04/java/1.6.0 -> /afs/desy.de/group/it/ilcsoft/java/1.6.0

\*\*\*\*\* Checking for rebuilds \*\*\*\*\*

\*\*\*\*\* Downloading sources \*\*\*\*\*

\*\*\*\*\*

\*\*\* Downloading sources for Mokka version mokka-06-06-p03...

\*\*\*\*\*

--13:58:32-- http://polywww.in2p3.fr/activites/physique/geant4/tesla/www/mokka/software/mokka\_tags/Mokka-mokka-06-06-p03.tgz

Resolving polywww.in2p3.fr... 134.158.128.2

Connecting to polywww.in2p3.fr|134.158.128.2|:80... connected.

HTTP request sent, awaiting response... 404 Not Found

13:58:32 ERROR 404: Not Found.

\*\*\* ERROR in module [ Mokka ]: Problems occurred downloading sources!!

What does it mean?  
What can I do?

Thanks.

Carmen

---

Subject: feature or bug in TRKSiSD00?  
Posted by [rita](#) on Mon, 19 Jan 2009 16:37:44 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello,

Is there any reason to keep the primary PID information in the TRKHit Collection output of TRKSiSD00, instead of the secondary PID?  
This prevents to access to the secondary MonteCarlo particle informations, as vertex, momentum at the vertex, PDG code, etc, via GetMCParticle().

In the function TRKSiSD00::DumpHit I have changed the assignement of the PID as

Line 317

```
CalCollection-> insert(new TRKHit (currentCylinder,  
    ...  
(Line 325) {currentPID} --> {aStep->GetTrack()->GetTrackID()}),
```

Is there another way to access secondary particle MC informations?

Thank you in advance,

rita

---

Subject: Re: problems with mokka in v01-04  
Posted by [engels](#) on Tue, 20 Jan 2009 08:52:29 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Carmen,

sorry for the late reply.

it seems that your configuration file is set to download the mokka 06-06-p03 tarball, which does not exist. you need to download this version of mokka with cvs by placing following line in your configuration file:

```
ilcsoft.module("Mokka").download.type="cvs"
```

Cheers,  
Jan

---

---

Subject: vxd03 in ILD\_00  
Posted by [walsh](#) on Thu, 19 Feb 2009 11:07:14 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi,

I am trying to run the simulation of the ILD\_00 model with the 5 single-layer geometry of LDCPrime\_02Sc, vxd03. In my mokka steering file I added the following lines:

```
/Mokka/init/EditGeometry/rmSubDetector vxd05  
/Mokka/init/EditGeometry/addSubDetector vxd03 20
```

I got the 5-layer structure in the gear file but the ladder distances are off by 1mm. For example, for the first ladder I get

```
LDPrime_02Sc : ladder distance="1.486600000e+01"  
ILD_00 (5 layers): ladder distance="1.586600000e+01"
```

What else should I change to obtain the correct one?

Thanks!

Roberval

---

---

Subject: Re: vxd03 in ILD\_00  
Posted by [walsh](#) on Mon, 23 Feb 2009 12:15:20 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

I think I found the solution. I added to my steering file the lines:

/Mokka/init/globalModelParameter VXD\_inner\_radius 15  
/Mokka/init/globalModelParameter VXD\_radius\_r1 15  
/Mokka/init/globalModelParameter VXD\_radius\_r2 26  
/Mokka/init/globalModelParameter VXD\_radius\_r3 37  
/Mokka/init/globalModelParameter VXD\_radius\_r4 48  
/Mokka/init/globalModelParameter VXD\_radius\_r5 60

Cheers

---

---

Subject: Re: vxd03 in ILD\_00  
Posted by [walsh](#) on Thu, 26 Feb 2009 14:42:25 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

The complete set of parameters in Mokka for the ILD\_00 with the 5 single layer geometry:

/Mokka/init/EditGeometry/rmSubDetector vxd05  
/Mokka/init/EditGeometry/addSubDetector vxd03 20  
/Mokka/init/globalModelParameter VXD\_inner\_radius 15  
/Mokka/init/globalModelParameter VXD\_radius\_r1 15  
/Mokka/init/globalModelParameter VXD\_radius\_r2 26  
/Mokka/init/globalModelParameter VXD\_radius\_r3 37  
/Mokka/init/globalModelParameter VXD\_radius\_r4 48  
/Mokka/init/globalModelParameter VXD\_radius\_r5 60  
/Mokka/init/globalModelParameter VXD\_length\_r1 50  
/Mokka/init/globalModelParameter VXD\_side\_band\_electronics\_width 1

Cheers,  
Roberval

---

---

Subject: Re: feature or bug in TRKSiSD00?  
Posted by [musat](#) on Tue, 07 Apr 2009 14:45:20 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Dear Rita,

All sensitive detectors in the tracking region write  
(to the hit that is being saved) the PID stored in

Control::primaryId

This is updated to the current TrackID in :  
Mokka/source/Kernel/src/TrackingAction.cc

In TrackingAction::PreUserTrackingAction there is the following piece of code:

```
=====
if( TruePrimary || ( InsideTrackerRegion &&
    aTrack->GetKineticEnergy()>Control::TPCCut) )
{
    // reset the PID for Cal hits
    Control::GetControl()->ResetPIDForCalHit(aTrack->GetTrackID());
}
=====
```

If the initial kinetic energy of the track is greater than Control::TPCCut (default is 10 MeV) then all sub-detectors located in the tracking region will store in the hits the PID of the current track.

The TPCCut can be changed by the command line option

Mokka -t <double>

specifies the TPC primary energy cut in MeV.  
(enables the user to control the TPC output file length)  
(default is 10 MeV)

or with the steering command:

/Mokka/init/TPCCut

The most direct way to go is to set the TPCCut to zero for example, but in that case, all tracking devices will behave like the VXD.

And, if I understood correctly from Paulo, all parent particles are saved, up to the primary, thus giving large lcio files.

The other possibility is to

- replace 'currentPID' by 'currentSecondaryPID'

in TRKSiSD00::DumpHit

Thus correcting the specific problem of the VXD, and leaving the other tracking detectors unaffected.

What do you think it would be best to do?

Best regards,  
Gabriel

---

Subject: Probs to start Mokka  
Posted by [stoebe](#) on Wed, 03 Jun 2009 14:35:20 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hello I have installed Geant4 and Mokka. Geant4 is working well but when I want to start Mokka I get this ERROR:

```
terminate called after throwing an instance of 'gear::ParseException'  
  what(): gear::ParseException: TPCParametersXML::toXML : Unknown coordinateType !  
Aborted
```

the whole install and run doc is attached.  
has anybody an idea what the problem could be.

Thanks Michael

#### File Attachments

1) [mokka-install+run-doc.txt](#), downloaded 680 times

---

Subject: Re: Probs to start Mokka  
Posted by [stoebe](#) on Tue, 09 Jun 2009 21:21:11 GMT  
[View Forum Message](#) <> [Reply to Message](#)

when I install Mokka with ilcsoft I get this ERROR

\*\*\*\* Mokka started at Tue Jun 9 17:21:40 2009

Mokka tag \$Name: mokka-06-07 \$, \$Id: Mokka.cc,v 1.36 2008/05/16 12:05:36 musat Exp \$  
Constructing RunManager...

```
***** *  
Geant4 version Name: geant4-09-02-patch-01 (13-March-2009)  
Copyright : Geant4 Collaboration  
Reference : NIM A 506 (2003), 250-303  
WWW : http://cern.ch/geant4  
***** *
```

<<< Geant4 Physics List engine packaging library: PACK 5.4  
<<< Geant4 Physics List simulation engine: LHEP 4.2

terminate called after throwing an instance of '\_\_gnu\_cxx::recursive\_init'  
what(): N9\_\_gnu\_cxx14recursive\_initE  
Aborted

thanks for helping

---

Subject: Re: problems with mokka in v01-04  
Posted by [engels](#) on Mon, 22 Jun 2009 11:24:08 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hi Carmen,

sorry if this post got somehow fallen into oblivion.

The problem you've reported on your first message (quoted below) happens because you have the environment variable G4VIS\_USE\_RAYTRACERX set on your system (maybe from a previous geant4 installation)

To fix the problem you should just need to unset it and recompile Mokka.

Cheers,  
Jan

Quote:

```
/mnt/data2/ilcsoft/ilcinstall_prueba/ilcinstall/my_v01-04/Mo  
kka/mokka-06-06-p03/tmp/Linux-g++/Mokka/exe/Mokka.o: In function  
'G4VisExecutive::RegisterGraphicsSystems()':  
Mokka.cc:(.text+0x395): undefined reference to `G4RayTracerX::G4RayTracerX()'  
collect2: ld returned 1 exit status
```

---

---

Subject: Re: Probs to start Mokka  
Posted by [Ryan\\_Page](#) on Mon, 27 Jul 2009 09:50:00 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi,

I am not sure exactly what causes this, but I had the same issue and so I installed an older version of Geant4 (9.1.p03) with mokka 06-07-p01, and I found that this combination works ok.

Ryan

---

---

Subject: publication quality detector drawings  
Posted by [harderk](#) on Mon, 03 Aug 2009 14:03:02 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello everyone,  
Does anyone have a script (list of GEANT commands) to create a publication quality plot of a cross-section (rz or rphi, ideally both) of the detector model in use in Mokka? I need something like that for LDCPrime\_02Sc, but my attempts to produce something were not particularly pretty so far.  
Cheers,  
Kristian

---

---

Subject: Re: publication quality detector drawings  
Posted by [NormanGraf](#) on Mon, 03 Aug 2009 20:33:55 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello Kristian,  
In my experience, Dawn is the best tool to use for this. Have you tried it?  
Norman

---

---

Subject: Re: Probs to start Mokka  
Posted by [engels](#) on Tue, 04 Aug 2009 08:50:29 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Michael,

as Ryan assumed correctly, it seems you are using incompatible versions of mokka, geant4 and gear..

Please have a look here for compatible versions used in the latest ilcsoft release (unfortunately geant4/9.1 is missing in the list)

Cheers,  
Jan

---

---

Subject: Re: Probs to start Mokka  
Posted by [stoebe](#) on Tue, 04 Aug 2009 13:43:48 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Thanks a lot for your help. Now I am using the geant on Desy and this works.

cheers Michael

---

---

Subject: Re: publication quality detector drawings  
Posted by [harderk](#) on Wed, 05 Aug 2009 15:46:23 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello Norman,  
Thank you for pointing me to Dawn. That did give me the desired result and was reasonably easy to learn how to use!  
Kristian

---

---

Subject: Re: publication quality detector drawings  
Posted by [NormanGraf](#) on Wed, 05 Aug 2009 17:12:21 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello Kristian,

Glad to be of assistance. Please let me know if you encounter any difficulties or need some help getting just the figures you need. Dawn is quite capable, but is also quite idiosyncratic.  
Norman

---

---

Subject: New SVN Mokka repository  
Posted by [musat](#) on Thu, 03 Sep 2009 13:39:14 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Dear Friends,

A new subversion repository for Mokka is available from LLR at:

<http://llrforge.in2p3.fr/svn/Mokka>

The first tag committed to it is 'mokka-07-00'.

There is a default readonly access with no passwd.

For Mokka developers we created write access accounts that have the same account names and passwords that they had on the old CVS repository.

There is a 'trunk' sub-directory containing the development tree, a 'tags' sub-directory and a 'branches' one.

For example:

- the first tag can be checked out with the command

```
svn co http://llrforge.in2p3.fr/svn/Mokka/tags/mokka-07-00
```

- the 'trunk' can be checked out with the command

```
svn co http://llrforge.in2p3.fr/svn/Mokka/trunk Mokka
```

A ViewVC access is also available:

<http://llrforge.in2p3.fr/viewvc/Mokka/>

The old CVS repository is still available in readonly mode.

The new developments will be committed to the new SVN.

Many thanks to David Chamont, the administrator of the LLR software repositories for all his help!

Best regards,  
Paulo and Gabriel

---

Subject: Re: problems with mokka in v01-04 and also v01-06  
Posted by [iglesias](#) on Thu, 24 Sep 2009 10:56:52 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello:

Now, I try to install the new version v01-06, and at finish of the installation I obtain the same error message with respecto to Mokka (the rest of the packages have been installed OK)

```
make[1]: Leaving directory `/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/Kernel'
make[1]: Entering directory `/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/Kernel'
Compiling Control.cc ...
Compiling ControlMessenger.cc ...
Compiling DummyPhysicsList.cc ...
Compiling EventAction.cc ...
Compiling GeneralPhysics.cc ...
Compiling GPSGenerator.cc ...
Compiling GuineaPigInterface.cc ...
Compiling HepLCIOInterface.cc ...
src/HepLCIOInterface.cc: In member function `virtual void
HepLCIOInterface::GeneratePrimaryVertex(G4Event*)':
src/HepLCIOInterface.cc:278: error: `assert' was not declared in this scope
/afs/desy.de/i586_rhel40/products/CLHEP/2.0.3.2/include/CLHEP/Units/PhysicalConstants.h: At
global scope:
/afs/desy.de/i586_rhel40/products/CLHEP/2.0.3.2/include/CLHEP/Units/PhysicalConstants.h:78:
warning: `CLHEP::electron_charge' defined but not used
make[1]: *** [/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Linux-g++/Mokka/HepLCIOInterface.o] Error 1
make[1]: Leaving directory `/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/Kernel'
make: *** [all] Error 2
```

\*\*\* ERROR in module [ Mokka ]: Required file not found:  
['/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/Li nux-g++/Mokka']

and If I go to the directory '/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/' it is empty.

I have tried to put in the configuration file the line that you told me:  
ilcsoft.module( "Mokka").download.type="cvs"

But I obtain again the same error message about Mokka.

---

Subject: problem in the installation of MOKKA  
Posted by [iglesias](#) on Mon, 28 Sep 2009 11:22:22 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello:

I try to install the new version v01-06, and at finish of the installation I obtain the same error message with respecto to Mokka (the rest of the packages have been installed OK)

```
make[1]: Leaving directory `~/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/Kernel'
make[1]: Entering directory `~/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/Kernel'
Compiling Control.cc ...
Compiling ControlMessenger.cc ...
Compiling DummyPhysicsList.cc ...
Compiling EventAction.cc ...
Compiling GeneralPhysics.cc ...
Compiling GPSGenerator.cc ...
Compiling GuineaPigInterface.cc ...
Compiling HepLCIOInterface.cc ...
src/HepLCIOInterface.cc: In member function `virtual void
HepLCIOInterface::GeneratePrimaryVertex(G4Event*)':
src/HepLCIOInterface.cc:278: error: `assert' was not declared in this scope
/afs/desy.de/i586_rhel40/products/CLHEP/2.0.3.2/include/CLHEP/Units/PhysicalConstants.h: At
global scope:
/afs/desy.de/i586_rhel40/products/CLHEP/2.0.3.2/include/CLHEP/Units/PhysicalConstants.h:78:
warning: `CLHEP::electron_charge' defined but not used
make[1]: *** [/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Lin
ux-g++/Mokka/HepLCIOInterface.o] Error 1
make[1]: Leaving directory `~/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/Kernel'
```

make: \*\*\* [all] Error 2

\*\*\* ERROR in module [ Mokka ]: Required file not found:

['/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/Li nux-g++/Mokka']

and If I go to the directory '/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/' it is empty.

P.D:

In the configuration file I have put about MOKKA:

```
ilcsoft.install( Mokka( "mokka-06-07-patch01" )).
```

The next time that I check I also have add the next line:

```
ilcsoft.module( "Mokka").download.type="cvs"
```

But I obtain again the same error message about Mokka.

---

Subject: Re: problem in the installation of MOKKA  
Posted by [sailer](#) on Mon, 28 Sep 2009 13:53:00 GMT  
[View Forum Message](#) <> [Reply to Message](#)

You probably have to provide a few more information, before anyone can help you.

What operating System are you trying to Install Mokka on?  
What compiler?

It seems that you are using ILCSoft installation, that is still pointing to the DESY reference installation, is that on purpose?

Cheers,  
André

---

Subject: Re: problem in the installation of MOKKA  
Posted by [engels](#) on Mon, 28 Sep 2009 13:57:02 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hi Carmen,

this is a compiler issue. since g++ version 4.1 or greater you have to explicitly #include <assert.h> when using assert otherwise the compiler throws an error. (don't worry if this doesn't make much sense to you

Just edit the file /mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/Kernel/src/HepLCIOInterface.cc and add at the top:  
#include <assert.h>

If you still experience more problems I recommend you to try a more recent version of Mokka where these problems are already fixed.

Cheers && Good Luck!  
Jan

---

Subject: Re: problem in the installation of MOKKA  
Posted by [iglesias](#) on Tue, 29 Sep 2009 11:20:40 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Jan

I have added #include <assert.h> in the HepLCIOInterface.cc file but again obtain an error message:

```
Creating/replacing object files in /mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Linux-g++/Mokka/libMokka.a ...
ar: creating /mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Linux-g++/Mokka/libMokka.a
Compiling Mokka.cc ...
Using granular libraries ...
Linking Mokka ...
/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Linux-g++/Mokka/obj/Mokka.o: In
function `G4VisExecutive::RegisterGraphicsSystems()':
Mokka.cc:(.text+0x395): undefined reference to `G4RayTracerX::G4RayTracerX()'
collect2: ld returned 1 exit status
make[1]: *** [/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/Linux-g++/Mokka] Error
1
make[1]: Leaving directory `/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/
Kernel'
make: *** [all] Error 2
*** ERROR in module [ Mokka ]: Required file not found:
['/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/Linux-g++/Mokka']
```

What is the meaning of the message? something related with Geant4 files???

I don't understand what is wrong in my installation...

You told me that I try with a more recent version of Mokka?  
what version? mokka-06-06-p01 ???

Thanks

Carmen

---

Subject: Re: problem in the installation of MOKKA  
Posted by [iglesias](#) on Tue, 29 Sep 2009 11:23:42 GMT  
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Hi Jan

I have added `#include <assert.h>` in the `HepLCIOInterface.cc` file but again obtain an error message:

```
Creating/replacing object files in /mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Linu
x-g++/Mokka/libMokka.a ...
ar: creating /mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Linu
x-g++/Mokka/libMokka.a
Compiling Mokka.cc ...
Using granular libraries ...
Linking Mokka ...
/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/tmp/Linu x-g++/Mokka/exe/Mokka.o: In
function `G4VisExecutive::RegisterGraphicsSystems()':
Mokka.cc:(.text+0x395): undefined reference to `G4RayTracerX::G4RayTracerX()'
collect2: ld returned 1 exit status
make[1]: *** [/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/Lin ux-g++/Mokka] Error
1
make[1]: Leaving directory `/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/source/
Kernel'
make: *** [all] Error 2
*** ERROR in module [ Mokka ]: Required file not found:
['/mnt/data2/ilcsoft/v01-06/Mokka/mokka-06-07-patch01/bin/Li nux-g++/Mokka']
```

What is the mean of the message? something related with Geant4 files???

I don't understand what is wrong in my installation...

You told me that I try with a more recent version of Mokka?  
what version? mokka-06-06-p01 ???

Thanks

Carmen

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Subject: Re: problem in the installation of MOKKA  
Posted by [iglesias](#) on Tue, 29 Sep 2009 11:26:27 GMT  
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Hi Andre,  
My compiler is GCC, (GNU) version 4.1 and 3.4 in compatibility mode  
My operating system is SL5.

But I only have problems in the installation of Mokka package, all the rest of the packages are OK installed.

Regards

Carmen

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Subject: Re: problem in the installation of MOKKA  
Posted by [engels](#) on Wed, 30 Sep 2009 06:57:39 GMT  
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Hi Carmen,

I already helped you with that problem once, please check this post

Cheers,  
Jan

---

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Subject: Re: problems with mokka in v01-04  
Posted by [iglesias](#) on Wed, 30 Sep 2009 07:51:11 GMT  
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Sorry, I have not read this mail because in June I was with maternity leave.  
Now I unset the environment variable as you told me and re-compile Mokka and I have finished correctly the installation.

Thank you very much.

Regards

Carmen

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Subject: Re: problems with mokka in v01-04  
Posted by [engels](#) on Wed, 30 Sep 2009 07:56:48 GMT  
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Hi Carmen,

No problem, I'm glad I could help

Cheers,  
Jan

---

---

Subject: Simulator status of particles in MC collection  
Posted by [cbartels](#) on Thu, 08 Oct 2009 09:54:01 GMT  
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---

I've been checking the dumpevent printout of the MCParticle collections for some .slcio of the 2008 DESY mass production, and i'm confused about the "v: vertex is not endpoint of parent" bit. It seems that when the bit is set, the vertex actually IS the endpoint of the parent, and vice versa. An example is below. Maybe there is a bug in dumpevent or Mokka?

I used the afs binaries in:  
`/afs/desy.de/group/it/ilcsoft/v01-06/Marlin/v00-10-04/`

Greetings,  
Christoph

In this printout the particle with index 5 has the endpoint of the parent 4 as vertex, although the v-bit is set.

collection name : MCParticlesSkimmed  
parameters:

----- print out of MCParticle collection -----

flag: 0x0

simulator status bits: [sbvtcls] s: created in simulation b: backscatter v: vertex is not endpoint of  
parent t: decayed in tracker c: decayed in calorim  
eter l: has left detector s: stopped

```
[ id ]index| PDG | px, py, pz | energy |gen|[simstat]| vertex x, y, z |
endpoint x, y, z | mass | ch
arge | [parents] - [daughters] |

[0000661c] 0| 22| 2.88e-06,-5.29e-06, 1.12e-02| 1.12e-02| 1 |[ l ]| 0.00e+00, 0.00e+00,
0.00e+00| 3.59e+00,-6.59e+00, 1.40e+04| 0.00e+00| 0.0
0e+00| [] - []
[0000661d] 1| 22|-1.15e-08,-2.40e-09,-4.80e-07| 4.80e-07| 1 |[ c s]| 0.00e+00, 0.00e+00,
0.00e+00|-5.99e+01,-1.25e+01,-2.51e+03| 0.00e+00| 0.0
0e+00| [] - []
[0000661e] 2| 12|-1.85e+02,-5.99e+01, 9.84e+01| 2.18e+02| 1 |[ l ]| 0.00e+00, 0.00e+00,
0.00e+00|-7.50e+03,-2.43e+03, 4.00e+03| 0.00e+00| 0.0
0e+00| [] - []
[0000661f] 3| -12| 1.80e+02, 4.74e+01,-8.15e+00| 1.86e+02| 1 |[ l ]| 0.00e+00, 0.00e+00,
0.00e+00| 7.50e+03, 1.98e+03,-3.39e+02| 0.00e+00| 0.0
0e+00| [] - []
[00006620] 4| 22| 4.63e+00, 1.25e+01,-9.30e+01| 9.40e+01| 1 |[ t s]| 0.00e+00, 0.00e+00,
0.00e+00| 1.54e+01, 4.15e+01,-3.09e+02| 0.00e+00| 0.0
0e+00| [] - [5,14]
[00006621] 5| -11| 3.15e+00, 8.48e+00,-6.32e+01| 6.38e+01| 0 |[s v c s]| 1.54e+01,
4.15e+01,-3.09e+02| 1.29e+02, 3.35e+02,-2.49e+03| 5.11e-04| 1.0
0e+00| [4] - [6]
[00006622] 6| 22| 2.42e-01, 5.81e-01,-4.31e+00| 4.36e+00| 0 |[s c s]| 1.29e+02,
3.30e+02,-2.47e+03| 1.29e+02, 3.31e+02,-2.48e+03| 0.00e+00| 0.0
0e+00| [5] - [7]
```

---

Subject: Migration of CVS Repository of Mokka  
Posted by [musat](#) on Wed, 25 Nov 2009 15:04:26 GMT  
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---

Dear friends,

The old cvs repository of Mokka was migrated from 'pollin1.in2p3.fr' to 'llrforge.in2p3.fr' (pollin1 will be stopped).

The old Mokka releases can be downloaded from the new cvs repository, via the (readonly) account 'anoncvs'.

You have to set CVSROOT to

```
:pserver:anoncvs@llrforge.in2p3.fr:/home/cvs/llc
```

(the passwd is unchanged).

Best regards,  
Gabriel

---

Subject: Mokka Installation on MacOs  
Posted by [acharpy](#) on Thu, 04 Feb 2010 09:47:11 GMT  
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---

Hello Mokka users,

I am newer in the llcSoft framework and I would like to implement the full description fo the Silicon Tracker System (SIT, SET and ETD).

So, to understand more and play a little with the geometry code, I try to install mokka in my laptop. For the moment I have already install LCHep, Geant4, LCIO and GEAR without problems.

Now, when I try to install Mokka but I have some problem in the compilation. To be more precise, the compilation is ok, but there are problems with the libraries linking . I don't find the solution to fix it (probably it is simple and I am lost ^^). Everybody could help me please ? Need I to give more informations ?

- The system is MacOs 10.5.8 on Intel processor
- XCode 3.1.2
- Mokka 7-00-00
- Geant4 9.2p02
- CLHEP 2.0.4.2
- mySql
- v01-11-00

- g++ 4.0.1

Following, a dump of my environment and the error message during the compilation:

Thanks in advance...

My best regards

Alexandre

Environment:

```
CLHEP_LIB_DIR=/Users/Shared/Dev/CommonDev/CLHEP/CLHEP_2.0.4.2/lib
G4LEVELGAMMADATA=/Users/Shared/Dev/CommonDev/Geant4/geant4.9
.2.p02/data/PhotonEvaporation2.0
GEAR=/Users/Shared/Dev/CommonDev/Gear/v00-11-01
MANPATH=/opt/local/share/man:/usr/share/man:/usr/local/share
/man:/Library/TeX/Distributions/.DefaultTeX/Contents/Man:/usr/X11/share/man
G4INSTALL=/Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02
SHELL=/bin/bash
MAKEFLAGS=-j 2
LCIO=/Users/Shared/Dev/CommonDev/LCIO/v01-11/
G4LEDATA=/Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/data/G4EMLOW6.2
LD_LIBRARY_PATH=/Users/Shared/Dev/CommonDev/Geant4/geant4.9.
2.p02/lib/Darwin-g++:/Users/Shared/Dev/CommonDev/CLHEP/CLHEP
_2.0.4.2/lib:/Users/Shared/Dev/CommonDev/Root/root_v5.26.00/lib
XMFLAGS=
COMMAND_MODE=unix2003
XMLIBS=
G4NEUTRONHPDATA=/Users/Shared/Dev/CommonDev/Geant4/geant4.9.
2.p02/data/G4NDL3.13
MOKKA=/Users/Shared/Dev/CommonDev/Mokka/mokka-07-00
G4VIS_BUILD_OPENGLX_DRIVER=1
G4RADIOACTIVEDATA=/Users/Shared/Dev/CommonDev/Geant4/geant4.
9.2.p02/data/RadioactiveDecay3.2
G4ABLADATA=/Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/data/G4ABLA3.0
PATH=/Users/Shared/Dev/CommonDev/LCIO/v01-11/tools:/Users/S
hared/Dev/CommonDev/LCIO/v01-11/bin:/usr/local/mysql/bin:/
opt/local/bin:/opt/local/sbin:/usr/bin:/bin:/usr/sbin:/sbin:
/usr/local/bin:/usr/texbin:/usr/X11/bin:/Users/Shared/Dev/LC
/bin/Darwin-g++:/Users/Shared/Dev/CommonDev/Root/root_v5.26.00/bin
```

```
G4LIB=/Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib
G4VIS_BUILD_RAYTRACERX_DRIVER=1
G4LIB_BUILD_SHARED=1
PWD=/Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02
G4LIB_BUILD_STATIC=1
  CLHEP_BASE_DIR=/Users/Shared/Dev/CommonDev/CLHEP/CLHEP_2.0.4 .2
LANG=fr_FR.UTF-8
ROOTSYS=/Users/Shared/Dev/CommonDev/Root/root_v5.26.00/
G4VIS_USE_OPENGLX=1
G4UI_USE_TCSH=1
G4LIB_USE_GRANULAR=1
G4VIS_USE_RAYTRACERX=1
  CLHEP_INCLUDE_DIR=/Users/Shared/Dev/CommonDev/CLHEP/CLHEP_2.0.4.2/include
G4DEBUG=1
G4SYSTEM=Darwin-g++
XAWLIBS=
  DYLD_LIBRARY_PATH=/Users/Shared/Dev/CommonDev/Geant4/geant4.
9.2.p02/lib/Darwin-g++:/Users/Shared/Dev/CommonDev/CLHEP/CLHEP_2.0.4.2/lib
LOGNAME=charpy
G4WORKDIR=/Users/Shared/Dev/LC
CLHEP_LIB=CLHEP
XAWFLAGS=
DEV=/Users/Shared/Dev
```

## Compilation

```
Creating shared library /Users/Shared/Dev/LC/tmp/Darwin-g++/CGA/libCGA.dylib ...
ar: creating archive /Users/Shared/Dev/LC/tmp/Darwin-g++/CGA/libCGA.a
ld warning: in CGABeamOn.o, file is not of required architecture
ld warning: in CGACellIndex.o, file is not of required architecture
ld warning: in CGAFieldCalculations.o, file is not of required architecture
ld warning: in CGAGeometryEnvironment.o, file is not of required architecture
....
Creating/replacing object files in /Users/Shared/Dev/LC/tmp/Darwin-g++/Mokka/libMokka.a ...
ar: creating archive /Users/Shared/Dev/LC/tmp/Darwin-g++/Mokka/libMokka.a
Using granular libraries ...
```

## Linking Mokka

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/Mokka/libMokka.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/Tesla/libTesla.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/Calice/libCalice.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/SiD/libSiD.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/LDC/libLDC.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/tbeam/libtbeam.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/EUTelescope/libEUTelescope.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/PluginManager/libPluginManager.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/Checkplots/libCheckplots.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/MarkerPlugin/libMarkerPlugin.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/workshop/libworkshop.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/LCPhys/libLCPhys.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/CGA/libCGA.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/LC/tmp/Darwin-g++/MokkaGear/libMokkaGear.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin-g++/libG4geomdivision.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin-g++/libG4geomBoolean.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/CommonDev/LCIO/v01-11//lib/liblcio.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/CommonDev/LCIO/v01-11//lib/liblsio.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/CommonDev/Gear/v00-11-01/lib/libgearxml.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/CommonDev/Gear/v00-11-01/lib/libgear.dylib, file is not of required architecture

ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin

-g++/libG4phys\_lists.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4phys\_builders.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4visHepRep.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4FR.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4RayTracer.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4Tree.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4VRML.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4OpenGL.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4vis\_management.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_radioactivedecay.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4decay.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4UIbasic.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4UIcommon.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4emhighenergy.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4muons.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4run.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4emlowenergy.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4xrays.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4emstandard.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_binary.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_coherent\_elastic.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin

-g++/libG4had\_theo\_max.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_interface\_ci.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_muon\_nuclear.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4transportation.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_bert\_cascade.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_proc.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_stop.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_mgt.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_preequ\_exciton.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4optical.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_handler.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_evaporation.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_neu\_hp.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_string\_diff.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_gem\_evaporation.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_fission.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4scoring.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_fermi\_breakup.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_multifragmentation.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_HE.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_string\_frag.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin

-g++/libG4hadronic\_qgstring.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_photon\_evaporation.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_string\_man.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_im\_r\_matrix.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_management.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_LE.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_body\_ci.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4shortlived.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_deex\_util.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4detutils.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_xssect.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_mod\_util.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4had\_mod\_man.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hadronic\_util.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4detscorer.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4modeling.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4event.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4mesons.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4digits.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4tracking.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4emutils.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin

-g++/libG4leptons.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4baryons.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4ions.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4bosons.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4cuts.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4procman.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4detector.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4track.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4geombias.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4navigation.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4volumes.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4magneticfield.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hits.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4partman.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4specsolids.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4csg.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4hepnumerics.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4geometrymng.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4materials.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4graphics\_reps.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin  
-g++/libG4intercoms.dylib, file is not of required architecture  
ld warning: in /Users/Shared/Dev/CommonDev/Geant4/geant4.9.2.p02/lib/Darwin

-g++/libG4globman.dylib, file is not of required architecture  
 ld warning: in /Users/Shared/Dev/CommonDev/CLHEP/CLHEP\_2.0.4.2/lib/libCLHEP.dylib, file is not of required architecture  
 Undefined symbols:  
 "Control::Abort(char const\*)", referenced from:  
   \_main in Mokka.o  
 "G4TrajectoryOriginVolumeFilterFactory::G4TrajectoryOriginVolumeFilterFactory()", referenced from:  
   G4VisExecutive::RegisterModelFactories() in Mokka.o  
 "G4VisManager::Draw2D(G4Polymarker const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4VisManager::Draw2D(G4Circle const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4VisManager::Draw2D(G4Text const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4VisManager::Draw(G4LogicalVolume const&, G4VisAttributes const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "CGAGeometryManager::GearSetup()", referenced from:  
   \_main in Mokka.o  
 "G4RayTracerX::G4RayTracerX()", referenced from:  
   G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
 "G4EventManager::SetUserAction(G4UserSteppingAction\*)", referenced from:  
   \_main in Mokka.o  
 "G4AllocatorPool::~G4AllocatorPool()", referenced from:  
   G4Allocator<G4CountedObject<G4VTouchable>>::~G4Allocator() in Mokka.o  
 "G4TransportationManager::GetTransportationManager()", referenced from:  
   \_main in Mokka.o  
 "G4VisManager::DispatchToModel(G4VTrajectory const&, int)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4VisManager::FilterHit(G4VHit const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "Control::PhysicsListName", referenced from:  
   \_main in Mokka.o  
 "G4VisManager::Draw(G4VSolid const&, G4VisAttributes const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "vtable for gear::GearParametersImpl", referenced from:  
   gear::GearParametersImpl::GearParametersImpl() in Mokka.o  
 "Control::BATCH\_MODE", referenced from:  
   \_main in Mokka.o

"G4VisManager::FilterTrajectory(G4VTrajectory const&)", referenced from:  
 vtable for G4VisExecutive in Mokka.o

"G4VisManager::RegisterModelFactory(G4VModelFactory<G4VFilter <G4VHit> >\*)", referenced from:  
 from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

"G4VisManager::GeometryHasChanged()", referenced from:  
 vtable for G4VisExecutive in Mokka.o

"Control::globalModelParameters", referenced from:  
 \_main in Mokka.o  
 \_main in Mokka.o

" G4TrajectoryDrawByOriginVolumeFactory::G4TrajectoryDrawByOriginVolumeFactory() ",  
 referenced from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

"G4VisManager::Initialise()", referenced from:  
 \_main in Mokka.o

"StackingAction::StackingAction()", referenced from:  
 \_main in Mokka.o

"G4VisManager::Draw(G4Polyhedron const&, HepGeom::Transform3D const&)", referenced from:  
 vtable for G4VisExecutive in Mokka.o

"G4VUserPhysicsList::SetDefaultCutValue(double)", referenced from:  
 \_main in Mokka.o

"G4StateManager::GetStateManager()", referenced from:  
 \_main in Mokka.o

" G4TrajectoryDrawByParticleIDFactory::G4TrajectoryDrawByParticleIDFactory() ", referenced from:  
 from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

"G4DAWNFILE::G4DAWNFILE()", referenced from:  
 G4VisExecutive::RegisterGraphicsSystems() in Mokka.o

"G4VisManager::Draw2D(G4Polyhedron const&, HepGeom::Transform3D const&)", referenced from:  
 from:  
 vtable for G4VisExecutive in Mokka.o

" G4TrajectoryDrawByAttributeFactory::G4TrajectoryDrawByAttributeFactory() ", referenced from:  
 from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

" G4TrajectoryGenericDrawerFactory::G4TrajectoryGenericDrawerFactory() ", referenced from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

" G4TrajectoryAttributeFilterFactory::G4TrajectoryAttributeFilterFactory() ", referenced from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

"RunAction::RunAction()", referenced from:  
 \_main in Mokka.o

"G4EventManager::SetUserAction(G4UserStackingAction\*)", referenced from:  
 \_main in Mokka.o

"G4OpenGLImmediateX::G4OpenGLImmediateX()", referenced from:  
 G4VisExecutive::RegisterGraphicsSystems() in Mokka.o

"G4VisManager::Draw(G4VPhysicalVolume const&, G4VisAttributes const&, HepGeom::Transform3D const&)", referenced from:  
 vtable for G4VisExecutive in Mokka.o

"G4VisManager::Draw(G4VHit const&)", referenced from:  
 vtable for G4VisExecutive in Mokka.o

"TrackingAction::TrackingAction()", referenced from:  
 \_main in Mokka.o

"G4VisManager::RegisterModelFactory(G4VModelFactory<G4VTrajectoryModel >\*)", referenced from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o  
 G4VisExecutive::RegisterModelFactories() in Mokka.o  
 G4VisExecutive::RegisterModelFactories() in Mokka.o  
 G4VisExecutive::RegisterModelFactories() in Mokka.o  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

"G4VisManager::G4VisManager()", referenced from:  
 G4VisExecutive::G4VisExecutive() in Mokka.o

"MokkaGear::mergeXML(std::basic\_string<char, std::char\_traits<char>, std::allocator<char> >, std::basic\_string<char, std::char\_traits<char>, std::allocator<char> >, std::basic\_string<char, std::char\_traits<char>, std::allocator<char> >)", referenced from:  
 \_main in Mokka.o

"G4TrajectoryDrawByChargeFactory::G4TrajectoryDrawByChargeFactory()", referenced from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

"Control::mokkaGearMergeSource", referenced from:  
 \_main in Mokka.o  
 \_main in Mokka.o

"G4UImanager::GetUIpointer()", referenced from:  
 \_main in Mokka.o

"G4HepRepFile::G4HepRepFile()", referenced from:  
 G4VisExecutive::RegisterGraphicsSystems() in Mokka.o

"PhysicsListFactory::create(std::basic\_string<char, std::char\_traits<char>, std::allocator<char> > const&)", referenced from:  
 \_main in Mokka.o

"Control::RangeCut", referenced from:  
 \_main in Mokka.o

"typeinfo for G4VisManager", referenced from:  
 typeinfo for G4VisExecutive in Mokka.o

"G4HitAttributeFilterFactory::G4HitAttributeFilterFactory()", referenced from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o

"Control::DETECTOR\_MODEL", referenced from:  
 \_main in Mokka.o

\_main in Mokka.o  
 "Control::mokkaGearFileName", referenced from:  
   \_main in Mokka.o  
   \_main in Mokka.o  
 "MokkaGear::getMgr()", referenced from:  
   \_main in Mokka.o  
 "Control::VISUMODE", referenced from:  
   \_main in Mokka.o  
 "\_G4cout", referenced from:  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
   \_main in Mokka.o  
 "PluginManager::getInstance()", referenced from:  
   \_main in Mokka.o  
   \_main in Mokka.o  
 "G4VRML1File::G4VRML1File()", referenced from:  
   G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
 "G4HepRep::G4HepRep()", referenced from:  
   G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
 "G4VisManager::Draw(G4NURBS const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "SteppingAction::SteppingAction()", referenced from:  
   \_main in Mokka.o  
 "G4VisManager::Draw(G4Square const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "CGAGeometryManager::GetCGAGeometryManager()", referenced from:  
   \_main in Mokka.o  
 "G4VisManager::Draw2D(G4NURBS const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4RunManager::G4RunManager()", referenced from:  
   RunManager::RunManager() in Mokka.o  
 "G4OpenGLStoredX::G4OpenGLStoredX()", referenced from:  
   G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
 "PluginManager::Exit() const", referenced from:  
   \_main in Mokka.o  
 "Control::G4DefaultDeltaOneStep", referenced from:

\_main in Mokka.o  
 "G4Ultcsh::G4Ultcsh(G4String const&, int)", referenced from:  
 \_main in Mokka.o  
 "PrimaryGeneratorAction::PrimaryGeneratorAction()", referenced from:  
 \_main in Mokka.o  
 " G4TrajectoryParticleFilterFactory::G4TrajectoryParticleFilterFactory() ", referenced from:  
 G4VisExecutive::RegisterModelFactories() in Mokka.o  
 "G4RayTracer::G4RayTracer()", referenced from:  
 G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
 "G4VisManager::~G4VisManager()", referenced from:  
 G4VisExecutive::~G4VisExecutive()in Mokka.o  
 G4VisExecutive::~G4VisExecutive()in Mokka.o  
 "PluginManager::Init() const", referenced from:  
 \_main in Mokka.o  
 "Control::GetControl()", referenced from:  
 \_main in Mokka.o  
 "Control::setup(int, char\*\*)", referenced from:  
 \_main in Mokka.o  
 "PhysicsListUserLimits::Enable()", referenced from:  
 \_main in Mokka.o  
 "G4VisManager::Draw2D(G4Square const&, HepGeom::Transform3D const&)", referenced from:  
 vtable for G4VisExecutivein Mokka.o  
 "G4AllocatorPool::G4AllocatorPool(unsigned int)", referenced from:  
 G4Allocator<G4CountedObject<G4VTouchable> >::G4Allocator()in Mokka.o  
 "G4VRML2File::G4VRML2File()", referenced from:  
 G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
 "CLHEP::HepRandom::createInstance()", referenced from:  
 \_\_static\_initialization\_and\_destruction\_0(int, int)in Mokka.o  
 "MokkaGear::printXML()", referenced from:  
 \_main in Mokka.o  
 \_main in Mokka.o  
 "Control::Log(char const\*)", referenced from:  
 \_main in Mokka.o  
 "G4VisManager::Draw(G4Polyline const&, HepGeom::Transform3D const&)", referenced from:  
 vtable for G4VisExecutivein Mokka.o  
 "G4Exception(char const\*, char const\*, G4ExceptionSeverity, char const\*)", referenced from:  
 G4VTouchable::GetVolume(int) constin Mokka.o  
 G4VTouchable::GetSolid(int) constin Mokka.o  
 G4VTouchable::GetReplicaNumber(int) constin Mokka.o  
 G4VTouchable::MoveUpHistory(int) in Mokka.o  
 G4VTouchable::UpdateYourself(G4VPhysicalVolume\*, G4NavigationHistory const\*) in Mokka.o

G4VTouchable::GetHistoryDepth() const in Mokka.o  
 G4VTouchable::GetHistory() const in Mokka.o  
 "Control::lcWrt", referenced from:  
   \_main in Mokka.o  
   \_main in Mokka.o  
 "G4VisManager::RegisterModelFactory(G4VModelFactory<G4VFilter <G4VTrajectory> >\*)",  
 referenced from:  
   G4VisExecutive::RegisterModelFactories() in Mokka.o  
   G4VisExecutive::RegisterModelFactories() in Mokka.o  
   G4VisExecutive::RegisterModelFactories() in Mokka.o  
   G4VisExecutive::RegisterModelFactories() in Mokka.o  
 "G4VisManager::Draw(G4Text const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4UItterminal::G4UItterminal(G4VUIshell\*, bool)", referenced from:  
   \_main in Mokka.o  
 "G4RunManagerKernel::SetPhysics(G4VUserPhysicsList\*)", referenced from:  
   \_main in Mokka.o  
 "G4VisManager::Draw(G4VTrajectory const&, int)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4EventManager::SetUserAction(G4UserEventAction\*)", referenced from:  
   \_main in Mokka.o  
 "EventAction::EventAction()", referenced from:  
   \_main in Mokka.o  
 "DummyPhysicsList::DummyPhysicsList(int)", referenced from:  
   \_main in Mokka.o  
 "G4EventManager::SetUserAction(G4UserTrackingAction\*)", referenced from:  
   \_main in Mokka.o  
 "G4VisManager::Draw(G4Circle const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4ASCIITree::G4ASCIITree()", referenced from:  
   G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
 "Control::InitialMacroFile", referenced from:  
   \_main in Mokka.o  
   \_main in Mokka.o  
 "Control::G4DefaultDeltaIntersection", referenced from:  
   \_main in Mokka.o  
 "G4VisManager::Draw2D(G4Polyline const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o  
 "G4TrajectoryChargeFilterFactory::G4TrajectoryChargeFilterFactory()", referenced from:  
   G4VisExecutive::RegisterModelFactories() in Mokka.o  
 "G4VisManager::Draw(G4Polymarker const&, HepGeom::Transform3D const&)", referenced from:  
   vtable for G4VisExecutive in Mokka.o

"MokkaGear::setFileName(std::basic\_string<char, std::char\_traits<char>, std::allocator<char> >)",  
referenced from:  
  \_main in Mokka.o  
  \_main in Mokka.o  
"G4VisManager::Draw(G4Scale const&, HepGeom::Transform3D const&)", referenced from:  
  vtable for G4VisExecutive in Mokka.o  
"G4StateManager::SetNewState(G4ApplicationState)", referenced from:  
  \_main in Mokka.o  
"G4VisManager::RegisterGraphicsSystem(G4VGraphicsSystem\*)", referenced from:  
  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
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  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
  G4VisExecutive::RegisterGraphicsSystems() in Mokka.o  
"vtable for RunManager", referenced from:  
  RunManager::RunManager() in Mokka.o  
"G4UImanager::ApplyCommand(G4String)", referenced from:  
  \_main in Mokka.o  
Id: symbol(s) not found  
collect2: ld returned 1 exit status  
make[1]: \*\*\* [/Users/Shared/Dev/LC/bin/Darwin-g++/Mokka] Error 1  
make: \*\*\* [all] Error 2

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Subject: Re: Mokka Installation on MacOs  
Posted by [acharpy](#) on Mon, 22 Feb 2010 12:53:55 GMT  
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It is done ^^

---

Subject: Problems starting Mokka  
Posted by [Ryan\\_Page](#) on Thu, 08 Apr 2010 10:39:59 GMT  
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Hi,

I am having some issues starting Mokka after I have installed. I used ilcinstall with config script 01-08-01, after its linked I try running it and get this error:

bin/Linux-g++/Mokka: error while loading shared libraries: libmysqlclient.so.16:

I know that the library is there, any ideas?

Thanks

Ryan

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Subject: Re: Problems starting Mokka  
Posted by [musat](#) on Thu, 08 Apr 2010 10:58:22 GMT  
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Hi,

The problem comes from the fact that the path to this library is not added to your LD\_LIBRARY\_PATH. Normally, this can be done by sourcing the script build\_env.sh that you can find in the installation directory of Mokka inside the ilcsoft distribution.

Orelse you can add this path by yourself to LD\_LIBRARY\_PATH.

Cheers, Gabriel

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Subject: Re: Problems starting Mokka  
Posted by [Ryan\\_Page](#) on Thu, 08 Apr 2010 11:33:10 GMT  
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Thanks, that was indeed the problem.

---

---

Subject: Segmentation fault with LDC00\_03Sc  
Posted by [jabernathy](#) on Thu, 20 May 2010 04:59:16 GMT

---

Hello all,

I am trying to run Mokka with the model LDC00\_03Sc but I receive a segmentation fault after during the second event.

My steering file contains these lines:

```
# initialize the detector model
/Mokka/init/detectorModel LDC00_03Sc
```

```
# set up the GEAR file name
/Mokka/init/MokkaGearFileName gear_LDC00_03Sc.xml
```

```
# set the crossing angle
/Mokka/init/globalModelParameter TUBE_crossing_angle 0.014
```

and I am executing the following commands to start the simulation:

```
/generator/generator particleGun
/gun/position 0 0 10 mm
/gun/direction 0 1 1
/gun/momentum 25 GeV
/gun/particle pi-
/run/beamOn
```

The first event runs without problem:

```
VXDCollection from the VXD sensitive detector has 5 hits.
SITCollection from the SIT sensitive detector has 6 hits.
FTDCollection from the FTD sensitive detector has 0 hits.
TPCCollection from the TPC sensitive detector has 349 hits.
TPC_skinCollection from the TPC_skin sensitive detector has 14 hits.
EcalBarrelCollection from the EcalBarrel sensitive detector has 229 hits.
EcalEndcapCollection from the EcalEndcap sensitive detector has 0 hits.
HcalBarrelRegCollection from the HcalBarrelReg sensitive detector has 2 hits.
HcalBarrelEndCollection from the HcalBarrelEnd sensitive detector has 245 hits.
HcalEndCapsCollection from the HcalEndCaps sensitive detector has 0 hits.
MuonBarrelCollection from the MuonBarrel sensitive detector has 0 hits.
MuonEndCapCollection from the MuonEndCap sensitive detector has 0 hits.
MuonPlugCollection from the MuonPlug sensitive detector has 0 hits.
LumiCalCollection from the LumiCal sensitive detector has 0 hits.
```

but the second "/run/beamOn" command results in a segmentation fault:

```
Idle> /run/beamOn
```

Segmentation fault

I have successfully used another model, LDC01\_06Sc, successfully so I don't think that it is an installation error.

---

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Subject: Re: Segmentation fault with LDC00\_03Sc  
Posted by [jabernathy](#) on Thu, 20 May 2010 05:00:27 GMT  
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I have just tried the LDC00\_03Rp model and it also segfaults. (Although this time it occurred on the 3rd event).

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Subject: Re: Segmentation fault with LDC00\_03Sc  
Posted by [jabernathy](#) on Thu, 20 May 2010 05:31:21 GMT  
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---

After recompiling in debug mode I receive this error:

```
=====> MOKKA ABORTING <=====
ECSD::ProcessHits: Assertion failed (ModuleCopyNumber / 100 != tmp)
WARNING - Attempt to delete the physical volume store while geometry closed !
WARNING - Attempt to delete the logical volume store while geometry closed !
WARNING - Attempt to delete the solid store while geometry closed !
WARNING - Attempt to delete the region store while geometry closed !
```

I'm guessing that it's the ECal Sensitive Detector.

---

---

Subject: Re: Segmentation fault with LDC00\_03Sc  
Posted by [jabernathy](#) on Fri, 21 May 2010 03:29:26 GMT  
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---

When the SEcal01 driver is disabled the segmentation faults no longer occur:

```
/Mokka/init/EditGeometry/rmSubDetector SEcal01
```

---

---

Subject: Re: Segmentation fault with LDC00\_03Sc  
Posted by [aplin](#) on Fri, 21 May 2010 10:44:41 GMT  
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---

Hi Jason,

the LDC models are not guaranteed to work with later versions of Mokka, I would suggest that if you wish to run this model you use an older version of Mokka. Is there any particular reason why you need to run this model?

Cheers,

Steve.

---

Subject: Re: Segmentation fault with LDC00\_03Sc  
Posted by [jabernathy](#) on Fri, 21 May 2010 16:35:56 GMT  
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---

Hi Steve,

I want to study how the non-homogeneous magnetic fields affect the TPC performance.

It was the only LDC detector concept model I could find which used the SFieldX00 driver.

I would like to be able to study different crossing angles using the same model.

Perhaps I could use something like ILD\_00fw01, ILD\_00fw or CILD\_00fw from the ILC or CILD concepts. What do you think?

It looks like the ILC\_00fw model can only use a crossing angle of 14 mrad....

- Jason

---

Subject: Mokka Geometry Database Cross-Reference  
Posted by [vogel](#) on Tue, 08 Jun 2010 01:57:25 GMT  
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---

Hi all,

after the Mokka Detector Model Database Browser has been a major hit across the globe, there is now another nifty tool that will make handling Mokka geometries even more fun: the Mokka Geometry Database Cross-Reference. It shows you which building blocks are defined in the Mokka geometry database and how they are linked and related to each other &#8211; making it easier to decide which pieces you&#8217;ll want to use for your simulations, or which you might include in your own future detector geometries.

Enjoy (or complain),  
Adrian

---

---

Subject: Problem with installing Mokka  
Posted by [Robin](#) on Wed, 22 Jun 2011 09:19:43 GMT  
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---

Hi everyone,

Maybe someone knows this problem and can help me.

I tried to install Mokka on my SL5 (64Bit) mashine, but it always stops with an error when linking.

I am using:

CLHEP: 2.0.4.5  
GEANT4: 9.3.p02  
g++: 4.1.2

This is my environment:

```
CLHEP_LIB_DIR=/usr/local/lib
G4LEVELGAMMADATA=/opt/geant4/9.3.p02/data/PhotonEvaporation2 .0
GEAR=/scratch/ilcsoft/v01-11/gear/v00-17
SSH_AGENT_PID=3272
HOSTNAME=hdpc049.hephy.local
DESKTOP_STARTUP_ID=
G4INSTALL=/opt/geant4/9.3.p02
TERM=xterm
SHELL=/bin/bash
HISTSIZE=1000
KDE_NO_IPV6=1
G4VIS_BUILD_VRML_DRIVER=1
```

GTK\_RC\_FILES=/etc/gtk/gtkrc:/home/robin/.gtkrc-1.2-gnome2  
WINDOWID=24117328  
LCIO=/scratch/ilcsoft/v01-11/lcio/v01-51-02  
OLDPWD=/scratch/ilcsoft/v01-11/Mokka/mokka-07-06-p02/source  
QTDIR=/usr/lib64/qt-3.3  
QTINC=/usr/lib64/qt-3.3/include  
G4LEDATA=/opt/geant4/9.3.p02/data/G4EMLOW6.9  
USER=robin  
LD\_LIBRARY\_PATH=/opt/CLHEP/2.1.0.1/CLHEP  
XMFLAGS=  
XMLIBS=  
G4NEUTRONHPDATA=/opt/geant4/9.3.p02/data/G4NDL3.13  
SSH\_AUTH\_SOCK=/tmp/ssh-sUQHBD3233/agent.3233  
KDEDIR=/usr  
SESSION\_MANAGER=local/hdpc049.hephy.local:/tmp/.ICE-unix/323 3  
G4RADIOACTIVEDATA=/opt/geant4/9.3.p02/data/RadioactiveDecay3 .2  
G4ABLADATA=/opt/geant4/9.3.p02/data/G4ABLA3.0  
PATH=/usr/lib64/qt-3.3/bin:/usr/kerberos/bin:/usr/local/bin:  
/usr/bin:/bin:/usr/X11R6/bin:/home/robin/bin  
G4VIS\_USE\_DAWN=1  
G4LIB=/opt/geant4/9.3.p02/lib  
G4VIS\_BUILD\_RAYTRACERX\_DRIVER=1  
QT\_IM\_MODULE=scim  
GDM\_XSERVER\_LOCATION=local  
G4LIB\_BUILD\_SHARED=1  
INPUTRC=/etc/inputrc  
PWD=/  
XMODIFIERS=@im=SCIM  
G4LIB\_BUILD\_STATIC=1  
CLHEP\_BASE\_DIR=/usr/local  
KDE\_IS\_PRELINKED=1  
LANG=en\_US.UTF-8  
PS1=\u@\h \w \$\br/>G4LIB\_BUILD\_ZLIB=1  
GDMSESSION=default  
SSH\_ASKPASS=/usr/libexec/openssh/gnome-ssh-askpass  
G4UI\_USE\_TCSH=1  
G4LIB\_USE\_GRANULAR=1  
G4VIS\_USE\_RAYTRACERX=1  
CLHEP\_INCLUDE\_DIR=/usr/local/include  
SHLVL=2  
G4DEBUG=1

```
G4REALSURFACEDATA=/opt/geant4/9.3.p02/data/RealSurface1.0
G4SYSTEM=Linux-g++
GNOME_DESKTOP_SESSION_ID=Default
XAWLIBS=
LOGNAME=robin
QTLIB=/usr/lib64/qt-3.3/lib
CVS_RSH=ssh
DBUS_SESSION_BUS_ADDRESS=unix:abstract=/tmp/dbus-CqdPWfbnA8,
guid=bf37293bcad3239758f0c5004e01ad2e
G4VIS_BUILD_DAWN_DRIVER=1
G4VIS_USE_VRML=1
CLHEP_LIB=CLHEP
GTK_IM_MODULE=scim-bridge
XAWFLAGS=
G4LIB_USE_ZLIB=1
G_BROKEN_FILENAMES=1
COLORTERM=gnome-terminal
```

And here comes the ERROR:

```
Compiling Visu.cc ...
Compiling VisuMessenger.cc ...
Creating shared library /opt/geant4/9.3.p02/tmp/Linux-g++/Mokka/libMokka.so ...
Creating/replacing object files in /opt/geant4/9.3.p02/tmp/Linux-g++/Mokka/libMokka.a ...
ar: creating /opt/geant4/9.3.p02/tmp/Linux-g++/Mokka/libMokka.a
Compiling Mokka.cc ...
Using granular libraries ...
Linking Mokka
/opt/geant4/9.3.p02/tmp/Linux-g++/Tesla/libTesla.so: undefined reference to
`Yoke05::BuildRPC1PlugShape(G4Polyhedra*, muonSD*, int, G4UserLimits*, Database*,
CGAGeometryEnvironment const&)'
collect2: ld returned 1 exit status
gmake[1]: *** [/opt/geant4/9.3.p02/bin/Linux-g++/Mokka] Error 1
gmake[1]: Leaving directory `/scratch/ilcsoft/v01-11/Mokka/mokka-07-06-p02/source/Kernel '
gmake: *** [all] Error 2
```

If you need any further detail, please let me know.

With kind regards, Robin Glattauer (Hephy Vienna)

---

---

Subject: Re: Problem with installing Mokka  
Posted by [engels](#) on Wed, 22 Jun 2011 10:57:07 GMT  
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---

Hi Robin,

I don't know if this is really the problem, but you have in your environment:

```
G4LIB=/opt/geant4/9.3.p02/lib
```

which could mean that you are trying to link against the 32bit libraries of geant4. As far as I know geant4 usually creates 64bit libraries under lib64 and sharedlib64.

Another thing which I find strange is that you do not seem to have the variable G4WORKDIR set, which causes the Mokka object files to be created under /opt/geant4/9.3.p02/tmp/Linux-g++/ and the Mokka binary under /opt/geant4/9.3.p02/bin/Linux-g++/Mokka which is probably something you do not want.

Cheers, Jan.

---

---

Subject: Re: Problem with installing Mokka  
Posted by [Robin](#) on Wed, 22 Jun 2011 21:21:55 GMT  
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---

You are right, I forgot to set the G4WORKDIR. Thanks!

Concerning the libraries: I've got neither the lib64 nor the sharedlib64 folder. Maybe I did something very wrong with installing Geant4.

This is what I did:

- I downloaded the tarball from the Geant4 homepage and unpacked it in /opt/GEANT4.
- For the data files I made a directory named data and unpacked them there.
- Then I used ./Configure -build to install.
- Afterwards I used ./Configure to create env.sh.

- I executed env.sh.

Result: No lib64 or sharedlib64, though I use SL5 64 Bit. I just installed it on my Ubuntu (64 Bit!) Laptop and there too got only the lib folder, nothing with 64.  
I know that in the Desy AFS Geant4 has those folders, so where did I go wrong?

(I can't wait to find out the simple mistake, that I oversaw here.)

Cheers, Robin

---

---

Subject: Re: Problem with installing Mokka  
Posted by [sailer](#) on Sat, 25 Jun 2011 10:44:10 GMT  
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---

Hi Robin,

I think the error you see is actually an error in Mokka, not with your system. The Yoke05::BuildRPC1PlugShape function is not implemented, but in the code it is (roughly):  
Line 187 (Yoke05.cc, Revision197)

```
unsigned int nLayerPlug = 0;
```

```
[...]
```

```
for(i=0; i < nLayerPlug; ++i){
```

```
[...]
```

```
    Yoke05::BuildRPC1PlugShape();
```

```
[...]
```

```
}
```

with gcc 4.3.2 (and I think -O2) no error shows up during linking (compilation always works), because the loop is never entered and thrown out by the compiler.

If I set nLayerPlug = 1, then I get the same error as you.

Which compiler version are you using?

Cheers,  
Andre

---

---

Subject: Re: Problem with installing Mokka

Posted by [Robin](#) on Mon, 27 Jun 2011 15:41:26 GMT  
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---

Thank you,

I deleted the for loop and now it works.

This solution may be a bit harsh and I maybe should also try if the -O2 option when compiling makes a difference, but for the moment it works and as the loop isn't used anyway...

So, thank you!

Still, I'm wondering, if I need the Geant4 lib64 folder and why it isn't there. If anyone has some insight on this, please let me know.

Btw: My g++ /gcc version is 4.1.2.

Cheers, Robin

---

Subject: Re: Problem with installing Mokka  
Posted by [engels](#) on Tue, 28 Jun 2011 10:01:25 GMT  
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---

Hi Robin,

if Mokka linked correctly than everything should be ok with your geant4 installation. In case you still want to check if you have 32 or 64bit libraries installed, you can use the file commando on one of your geant4 shared libraries.

Cheers, Jan.

---

Subject: Re: Problem with installing Mokka  
Posted by [Robin](#) on Tue, 28 Jun 2011 11:23:00 GMT  
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---

Thanks, the file commando is more useful than I knew.

My libraries are 64 Bit, as they should be.

Cheers, Robin

---

---

Subject: mokka "skip events" from stdhep input?  
Posted by [daniel\\_jeans](#) on Tue, 17 Jan 2012 15:05:42 GMT  
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---

This probably has a simple answer, but I can't find it!

I have a stdhep file containing many events. To simulate the first 10 of these events with Mokka, I put the following in my macro:

```
/generator/generator file.stdhep  
/run/beamOn 10
```

I would like to split the simulation of this input file into many jobs. How do I tell Mokka to skip the first 10 events in the file and to simulate events 11-20?

Thanks,  
Daniel.

---

---

Subject: Re: mokka "skip events" from stdhep input?  
Posted by [sailer](#) on Tue, 17 Jan 2012 15:13:49 GMT  
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---

In the Mokka steering file

```
/Mokka/init/startEventNumber <SOMENUMBER>
```

Then Mokka should say something like

    Skipping first <SOMENUMBER> events

after the input of /run/beamOn

The event numbers start with 0

Cheers,  
Andre

EDIT: Commands starts with a "/" of course

---

---

Subject: Re: mokka "skip events" from stdhep input?  
Posted by [gaede](#) on Tue, 17 Jan 2012 15:16:44 GMT  
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...

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Subject: Re: Problem with installing Mokka  
Posted by [tonyprice1877](#) on Tue, 21 Feb 2012 15:57:21 GMT  
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---

Hi,

Sorry to revive this thread but I have been trying to install iLCSoft v01-13-03 and was also having troubles with the MOKKA install. After reading this I removed the same loop and now everything has built fine. I am using mokka-07-07-p05 (release 282??) should this still be an issue or am I doing something wrong?

I am using CLHEP 2.1.0.1 and Geant4.9.4.p03, g++ 4.1.2

Tony

---

---

Subject: Re: Problem with installing Mokka  
Posted by [engels](#) on Tue, 21 Feb 2012 16:22:37 GMT  
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---

Hi Tony,

Steve has already fixed this issue in the 'trunk'. Unfortunately it has not yet been released..

Cheers, Jan.

---

---

Subject: Re: Problem with installing Mokka  
Posted by [tonyprice1877](#) on Wed, 22 Feb 2012 10:26:26 GMT  
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---

Hi Jan,

Thank you for clearing this up for me. I was mostly just worried about having a wrong setup in my installation but I will not be using Tesla anyway so should not be an issue

Tony

---

---

Subject: Re: Problem with installing Mokka  
Posted by [engels](#) on Wed, 22 Feb 2012 10:31:20 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Tony,

no problem. Thank you for your feedback anyways :)

Cheers, Jan

---

---

Subject: Mokka Simulation Times  
Posted by [tonyprice1877](#) on Fri, 24 Feb 2012 12:29:59 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi All,

Me again! (sorry) I now have Mokka 07-07-p05 built and am trying to run some simulations using ILD\_O1\_v01 on events in a stdhep file

I have copied StandardConfig to a test directory and am trying to run the steer file to simulation the 3 events. Mokka is running but taking ~20 minutes per event! Is this correct or am I doing something wrong? I'm sure I have heard ~1 minute per event so maybe something is wrong with my setup? Can anybody suggest some tests that will allow me to find my problem?

Thanks again,

Tony

---

---

Subject: Heavy flavour hadrons in Mokka  
Posted by [voutsi](#) on Wed, 21 Mar 2012 16:32:19 GMT  
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---

Hi,

I am using the trunk version of Mokka, built with the trunk versions of the Icio, gear etc. While I was trying to produce some heavy flavour jets (for example using the command /gun/particle  $D^*(2010)^+$ ), I've faced some strange behaviour.

Mokka printed out:

>>> Event 18, scanning sub-detectors

G4Decay::Dolt : decay table not defined for  $D^*(2010)^+$

```
*** G4Exception : No Decay Table
    issued by : G4Decay::Decaylt
Decay table is not defined
```

I have defined the physics library and the particle table file inside my steering file:

```
/Mokka/init/physicsListName QGSP_BERT
/Mokka/init/PDGFile particle.tbl
```

The hadron  $D^*(2010)^+$  is defined inside particle.tbl.

Thinking that might something going wrong with my own mokka installation, I tried to use the one located under

```
/afs/desy.de/project/ilcsoft/sw/x86_64/gcc41_sl5/v01-13-04/Mokka/mokka-07-07-p06
```

after of course defining the environment by sourcing the corresponding script.  
I got exactly the same error message.

Has anyone face something similar?

Thanks,  
Yorgos

Subject: Re: Heavy flavour hadrons in Mokka  
Posted by [gaede](#) on Thu, 22 Mar 2012 09:34:57 GMT  
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---

Hi Yorgos,

geant4 has decay tables defined for the most common particles (pions, kaons, ...) only. The file particles.tbl defines lifetimes and masses of particles only - but not the decay channels. In order to have the  $D^*(2010)^+$  decay, you will have to specify the decay - either in an stdhep file (from a generator) or you would have to create a decay class in geant4 for for it, similar to:

```
/afs/desy.de/project/ilcsoft/sw/x86_64_gcc41_sl5/geant4/9.5/source/particles/hadrons/mesons/src/G4KaonPlus.cc
```

Cheers, Frank.

---

---

Subject: Re: Heavy flavour hadrons in Mokka  
Posted by [voutsi](#) on Thu, 22 Mar 2012 21:50:07 GMT  
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---

Thanks Frank,

defining the decay using an stdhep file solves the issue.

Cheers,

Yorgos

---

---

Subject: mokka db server down?  
Posted by [jeans](#) on Tue, 18 Feb 2014 05:47:08 GMT  
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---

The default Mokka db server seems to be down?

```
"Connecting to the database "models03"  
Unable connect to database "models03": Failed to connect to database. Error: Can't connect to  
MySQL server on 'pollin1.in2p3.fr' (111)
```

=====> MOKKA ABORTING <=====  
Database connection failed"

The machine pollin1 seems to be alive: it responds to a ping.

Regards,  
Daniel.

---

---

Subject: mokka db browser  
Posted by [jeans](#) on Wed, 25 Jan 2017 04:44:21 GMT  
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---

Does anyone know if the online mokka db browser still exists somewhere?

It used to be at:  
<http://flc.desy.de/ldcoptimization/tools/mokkamodels.php>  
and was often rather useful...  
I find myself wanting to consult it, but it seems to have disappeared.

Thanks,  
Daniel.

---

---

Subject: Re: mokka db browser  
Posted by [gaede](#) on Wed, 25 Jan 2017 05:31:24 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Daniel,

we had to shut down the Mokka databas browser as php is no longer allowed on DESY web-servers.

You woul have to connect to the database directly and browse it with mysql commands:

```
mysql -h pollin1.in2p3.fr -u consult -p
```

Cheers, Frank.

---