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Subject: New patch 02 to Mokka release 06-04  
Posted by [musat](#) on Thu, 06 Sep 2007 16:08:56 GMT  
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Dear friends,

A new Mokka patch mokka-06-04-patch02 is available at

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

From release notes:

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What is new in this Mokka release  
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- I. Fixing the particle charge in MCParticleList for primaries not tracked.
- II. Fixing memory leak when skipping events in stdhep input files.
- III. Bug fixes in scintillators' drivers for Desy and CERN TB models
- IV. Adding a GEAR interface to many more detector drivers.
- V. Adding new Geant4 physics lists

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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 or v01-08-01, gcc 3.2.3, gcc 3.4.5 or gcc 4.1.1, SL3 or SL4, optionally with Gear v00-06-01

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- I. Fixing the particle charge in MCParticleList for primaries not tracked.

Before this patch, all primaries in event file with generator code > 2 and all particles not tracked by Mokka had the charge in MCParticleList collection set to zero (not initialized).

With this patch, all known particle in physics list have the charge information in the MCParticleList collection set correctly. The unknown particles in the actual physics list have the charge set to -1000 (a not physical value).

Many thanks to Erik Devetak signaling the problem and helping to fix it.

## II. Fixing memory leak when skipping events in stdhep input files.

Before this fix, skipping events in stdhep input files have led to memory leak. For big event files Mokka could crash with the runtime error "bad\_alloc" (no more memory available). It's fixed with this patch. Many thanks to Dennis Martsch for signaling this bug in the Mokka issues tracker at [mokka.in2p3.fr](http://mokka.in2p3.fr).

## III. Bug fixes in scintillators' drivers for Desy and CERN TB models

Before this fix, an error message was printed when Mokka was built in 'debug' mode. The problem was in the indexing of the hits in the scintillators.

## IV. Adding a GEAR interface to many more detector drivers.

If Mokka is compiled with active GEAR interface, an xml file with a description of the detector geometry is created. The information to be put into this xml file needs to be provided by each individual subdetector driver. Previous versions of Mokka only had a small number of drivers with GEAR interface; this has now been extended to cover almost all Tesla and LDC models. Some details of the xml format were changed (for example the specification of the magnetic field was moved from the TPC parameter set into its own global section). Versions of MarlinReco newer than v00-04 are expected to support this new format. MarlinReco versions up to (and including) v00-04 will need minor manual editing of the xml file created by this new Mokka release.

## V. Adding new Geant4 physics lists

New physics lists that became available with the recent releases of Geant4 were added to Mokka PhysicsListFactory:

FTFP\_EMV, QBBC, QGSP\_BERT\_EMV, QGSP\_BERT\_NQE, QGSP\_EMV\_NQE, QGSP\_EMX, and QGSP\_NQE

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