Status of global

G.Cosmo, G.Folger

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Geant 8.0

- Migration to CLHEP 2.0 – breaks compatibility with 1.8.x
  - Units and constants remain in global namespace
  - Call to vectors, random numbers, geometry transformations will be in CLHEP:: and HepGeom:: namespaces
  - Need to update some files in several categories
    - See list of files in mail by G.Cosmo sent 30-Sept-2005 to all category coordinators
    - Changes can be done independently, as long as CLHEP 1.9 is used
    - We will do this just before the release at CERN
- Migrate to sstream for G4cout, G4cin, …
  - existing Tag global-V07-01-02 includes this

Release 7.1

- Migrated calls to G4Exception in HEPNumerics to canonical signature.
- Q/A cleanup to clear CodeWizard warnings, minor fixes and moved inline methods to .icc files.
- Added G4BestUnit::operator G4String in G4UnitsTable.
- Added new class G4AnalyticalPolSolver in HEPNumerics module, implementing the CACM algorithm for solving analytically a polynomial equation up to the 4th order.
- Added polynom-solver class G4JTPolynomialSolver implementing the Jenkins-Traub algorithm for real polynomial root finding. To be used by the twisted-trap shape for precise computation of intersections.

7.1

- **2. AIDA and CLHEP**
- Geant4 7.1 requires the installation of CLHEP. Tests have been performed with **CLHEP-1.9.2.1** The software has been verified to be still compatible with **CLHEP-1.8.1.0**.

- Geant4 7.1 examples with histogramming co-work with AIDA 3.2.1 implementations. These include:
- PI and included components
- JAS (Java Analysis Studio)
- Open Scientist

7.0

- **2. AIDA and CLHEP**
- Geant4 7.0 requires the installation of CLHEP.
  Tests have been performed with **CLHEP-1.8.1.0**
  The software has been verified also with
  CLHEP-1.9.1.2.

- Geant4 7.0 examples with histogramming
  cowork with AIDA 3.2.1 implementations.

Release 7.0

- New implementation of G4Allocator
  - Required for gcc-3.4.X compilers
  - based on a pool of memory-chunks with size of 1Kb, as for the old allocator. This implementation replaces the old G4Allocator which was based on pages and no longer.
  - The new allocator also supports the standard interface required for STL containers, in case it will be used as alternative allocator instead of the default std::allocator
  - Added inclusion of <cstddef> to G4Allocator.hh to make the header self-consistent.
- Migrated code to use std:: namespace for mathematical functions included from <cmath>.

Release 7.0

- Removed explicit inclusion of CLHEP.h
  - Removing also implicit inclusions of system headers <math.h>, <stdlib.h> and <limits.h>.
- Removed implicit inclusion of CLHEP's template function abs(), use standard function std::abs() instead.
- G4PhysicsTable:
  - Added collection of flags and related methods. These booleans used by physics processes to flag if recomputation is required or not.
  - Code cleanup and added Push_back() method.
- Added global function G4RandomDirection() providing a random 3-vector normalised in 4pi.
- Cleared obsolete setup for min/max macros required for Windows/VC++6.