

Working group Goals for 2001

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Editor: John Apostolakis

Event, Run and Detector Response

Working group (Makoto Asai)

- Event category
- Interface to HepMC

Geometry and Transportation

Working group work items for 2001

- Navigator and Volumes
 - reference counted touchables
 - replica navigation
- Magnetic Field
 - handling magnetic-field per volume
 - general consolidation and stability: energy in electromagnetic field
 - improve unit tests
- CSG solids
 - general consolidation (*CalculateExtent*, testing)
 - code review
- STEP and BREPS
 - BREPS code review and testing
 - STEPinterface module: class-1 descriptors, association-relationship entities
 - STEP: evaluate alternatives to NIST STEP Reader

- Full migration to STL
- Software Process Improvement
 - Review of use-cases and requirements
Generate detailed URD for geometry domain. Estimated time: 1 month
 - Update existing design diagrams
From existing MDL files: review new developments and design changes, convert to UML notation, generate new diagrams to update web documents and User's Guide. Estimated time: 1 month
 - Enforce adoption of processes for trace-ability. Estimated time: 1 month

(Gabriele Cosmo, 24-Jan-2001)

Hadronic physics category/working group

- Release dedicated elastic scattering models for proton and neutron elastic scattering off hydrogen, based on R. Arndt's database.
- Release the intra-nuclear cascade and evaporation parts of the HETC re-write.
- Design iteration and re-implementation of longitudinal string-decay.
- Release chiral invariant phase-space-decay implementation.

Hans Peter Wellisch (9 February 2001).

Electromagnetic Physics Working Group:

2001 : Projects, milestones, things to do

Comparison projects

- Atlas
- Babar
- Cms ?
-

Developments in standard em

- continuous development of Multiple Scattering
- subcutoff d-rays for muons

- re-analysis and design of EnergyLoss/Ionisation ?
for better compatibility between standard and lowE (mixture of processes)
- Integral approach re-evaluation ?
provisionally, create a new subdirectory

Cut by logical volume

Analysis and design.

High Energy processes (above 100 TeV)

Evaluate the coherence of the current scheme. Reinforce the collaboration with Rostislav Kokoulin and Kellner. Research new expertise.

Plot of cross sections

Provide an equivalent of the command `drmat` in G3: standard way to plot [crosssections](#), [de/dx](#), etc..for all processes, including hadronic. More generally, provide a standard access to the relevant data of all processes. Use Analysis tool.

Documentation

- Physics reference manual
- design documents
- User guide

Interactive course of em physics

Original information from: [Projects, milestones and to-do list](#), by Michel Maire (25th January 2001)

Low Energy Electromagnetic Physics Working Group

A document summarising the LowE WG's objectives for 2001 is available at <http://www.ge.infn.it/geant4/lowE/documents/LowE-Proj2001.ps>

Maria Grazia Pia (19 March 2001)

Particle/Track Working Group:

Hisaya Kurashige Feb. 2001

- Reduction of Initialization time (co-working with RUN category)

- retrieve/save cut values for particles from/into files
- retrieve/save physics tables of each process from/into files
- Particle Definition
 - retrieve/save particle properties from/into file
 - HepPDT interface (after official release of HepPDT)
- Dynamic Particle (co-working with Decay Process and PrimaryParticle)
 - handling pre-assigned life time
- Software Process Improvement
 - Update existing design diagrams

Tracking:

- STL migration

ISO C++ compliance

Takashi Sasaki, February 2001.

User Interfaces working group goals for 2001

1) exploration and test of G4cin

([In 2001 only] .. an exploration/test period to study all the impact that it will have, in particular with all visualization drivers and with the mixing of things that will come from analysis tools.)

2) plans of members

Naruto:

a) GAG's plug-in version for JAS

With this, user can control the execution of Geant4, while taking histograms

b) improved version of Geant4 editors

editors with menus to insert texts on Geant4 classes and their methods (agreed in Paris?)

Intercoms category (M. Asai)

- Variable and loop handling in macro file execution

Hajime Yoshida, Feb. 2001

Visualization working group:

- * Completion of the visualization commands
- * Create special training kits for visualization with demonstrations and/or exercises
- * Improvement of automatic visualization
- * The first release of the XML ==> DAWN file converter

Satoshi Tanaka

Analysis category plans for 2001

- have AIDA interfaces for tuple and cloud of points.
- have implementations of tuple and cloud for the three analysis system : JAS, Lizard, OpenScientist compliant with AIDA interfaces.
- have Geant4/analysis completed to take into account these implementations.
- have an /analysis/processes/plot command equivalent to the Geant3/drmac command.
- have all that installed at CERN for Linux and NT for the December release.

Guy Barrand, 9th February 2001.

Examples

- Restructuring/reorganization of novice examples

M. Asai