

GEANT4 Web Site Issues



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Documentation Working Group



GEANT4 Collaboration Meeting

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Current GEANT4 Web pages have a fairly unified layout and style

- Common headers and footers with useful links
- CSS stylesheets for presentation in browsers and printing
- CVS repository with hooks to deploy committed pages

Pages are maintained manually

- Writing and editing HTML directly
- Effort to maintain consistent structure across pages
- Substantial copy-and-paste (no '`#include`' in HTML)
- Links not mirrorable (CERN vs. KEK)

Content Management Systems

In 2011, Gunter produced a prototype Drupal version of G4 Web

<https://indico.fnal.gov/getFile.py/access?contribId=104&sessionId=4&resId=0&materialId=slides&confId=4535>

<https://geant4-dev.web.cern.ch>



“Back end” system

- Wiki, Dreamweaver, Drupal, etc.
- Maintains Web pages as non-HTML “data files”
- Handles internal cross-linking, sidebars, indices
- Some include version control

Would require conversion of all existing HTML and other content

Non-trivial manpower to convert, maintain, update

Any groups able, willing to contribute to effort?

Core GEANT4 Web pages only part of public documentation

- Examples (both Basic and Advanced)
- Physics Working Groups (low-energy EM)
- Users Guides
- Ad hoc Information (MT migration)
- Institutional Pages follow local formatting

Geant4[Download](#) | [User Forum](#) | [Gallery](#) | [Contact Us](#)

[Home](#) > [User Support](#) > [User Documentation](#)

Geant4 User's Documents: Introduction to Geant4

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1. Geant4 Scope of Application

Geant4 is a free software package composed of tools which can be used to accurately simulate the passage of particles through matter. All aspects of the simulation process have been included in the toolkit:

- the geometry of the system,
- the materials involved,
- the fundamental particles of interest,
- the generation of primary events.

Geant4 examples

[Main Page](#) | [Related Pages](#) | [Modules](#) | [Namespaces](#) | [Classes](#) | [Files](#) |

Example B3

This example simulates schematically a Positron Emitted Tomography system.

GEOMETRY DEFINITION

The support of gamma detection are scintillating crystals. A small number of such crystals are optically grouped in a matrix of crystals. In this example, individual crystals are not described; only the matrix of crystals is and it is still called 'Crystal' hereafter.

Crystals are circularly arranged to form a ring. Few rings make up the full detector (gamma camera). This is done by positioning Crystals in Ring with an appropriate rotation matrix. Several copies of Ring are then placed in the full detector.

The head of a patient is schematised as a homogeneous cylinder of brain tissue, placed at the center of full detector.

The Crystal material, Lu2SiO5, is not included in the G4Nist database. Therefore, it is explicitly built in DefineMaterials().

PHYSICS LIST

The physics list contains standard electromagnetic processes and the radioactiveDecay module for Genericon. It is defined in the B3PhysicsList class as a Geant4 modular physics list with registered physics builders provided in Geant4:

- G4DecayPhysics - defines all particles and their decay processes
- G4RadioactiveDecayPhysics - defines radioactiveDecay for Genericon
- G4EmStandardPhysics - defines all EM standard processes

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Geant4
INFN
Particle Simulation
of High Energy

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CexmcExample [Edit](#) [0](#)

Cexmc stands for Charge EXchange Monte Carlo. The program was used to simulate real experiments in Petersburg Physics Institute (PNPI, Russia).
Here are links to detailed User's Manual and explanatory images of the experimental setup:

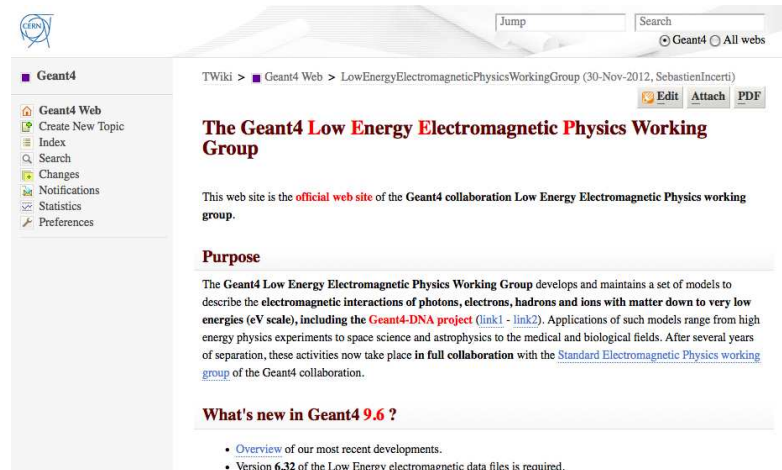
[CexmcUsersManual.pdf](#)
[Details](#) [Download](#) 531 KB

[CexmcSetupImages.pdf](#)
[Details](#) [Download](#) 704 KB

On the rest of this page only compilation of the program and its run modes will be explained.

Compilation

Basic modules of Cexmc must compile with Geant4 version 9.4. Cexmc won't compile with older versions of Geant4 consists of several optional and mandatory modules, optional modules can be enabled or disabled in the makefile dedicated macro. Modules may involve additional dependencies. In the following table the dependencies and roles



The screenshot shows a TWiki web page. At the top, there's a navigation bar with 'Jump' and 'Search' fields, and a dropdown menu showing 'Geant4' and 'All webs'. Below this is a sidebar with a 'Geant4' logo and a list of links: 'Geant4 Web', 'Create New Topic', 'Index', 'Search', 'Changes', 'Notifications', 'Statistics', and 'Preferences'. The main content area has a breadcrumb trail: 'TWiki > Geant4 Web > LowEnergyElectromagneticPhysicsWorkingGroup (30-Nov-2012, SebastianIncerti)'. Below the breadcrumb are 'Edit', 'Attach', and 'PDF' buttons. The title is 'The Geant4 Low Energy Electromagnetic Physics Working Group'. The text states: 'This web site is the official web site of the Geant4 collaboration Low Energy Electromagnetic Physics working group.' There is a section titled 'Purpose' which describes the group's work on electromagnetic interactions. At the bottom, there is a section titled 'What's new in Geant4 9.6 ?' with a list of updates.

Jump Search
Geant4 All webs

TWiki > Geant4 Web > LowEnergyElectromagneticPhysicsWorkingGroup (30-Nov-2012, SebastianIncerti)
Edit Attach PDF

The Geant4 Low Energy Electromagnetic Physics Working Group

This web site is the official web site of the Geant4 collaboration Low Energy Electromagnetic Physics working group.

Purpose

The Geant4 Low Energy Electromagnetic Physics Working Group develops and maintains a set of models to describe the electromagnetic interactions of photons, electrons, hadrons and ions with matter down to very low energies (eV scale), including the [Geant4-DNA project](#) ([link1](#) - [link2](#)). Applications of such models range from high energy physics experiments to space science and astrophysics to the medical and biological fields. After several years of separation, these activities now take place in full collaboration with the [Standard Electromagnetic Physics working group](#) of the Geant4 collaboration.

What's new in Geant4 9.6 ?

- [Overview](#) of our most recent developments.
- Version 6.32 of the Low Energy electromagnetic data files is required.

Introduction to Geant4

Geant4 Collaboration

Version: geant4 9.6.0

30th November, 2012

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Chapter 1. Geant4 Scope of Application

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The screenshot shows the Geant4 website. At the top is the 'Geant 4' logo. Below it is a navigation bar with links: 'Applications', 'Results & Publications', 'Gallery', 'Download', 'User Support', 'Collaboration', 'Forum', and 'Web Applications'. The main content area is titled 'Home' and 'Geant4 Tags'. There is a sub-navigation bar with 'Tags', 'Taglists', and 'Development lines'. Below this are 'Query', 'Refresh', and 'Print' buttons. A table lists tags with columns: 'Date', 'Author', 'Path', 'Tag name', 'Bugfix', 'Status', 'Description', and 'Sente'. The first row shows a tag named 'greps-V09-06-07' with a status of 'Proposed' and a description 'Remove G4ThreadLocal keyword f [...]'. The second row shows a tag named 'mdes-V09-06-13' with a status of 'Download'.

Geant 4

Applications Results & Publications Gallery Download User Support Collaboration Forum Web Applications

Home

Geant4 Tags

Tags Taglists Development lines

Query Refresh Print

X	Date	Author	Path	Tag name	Bugfix	Status	Description	Sente
<input type="checkbox"/>	2013-09-12 17:48:29	asaim	geant4/ source/ graphics_reps	greps-V09-06-07	No	Proposed	Remove G4ThreadLocal keyword f [...]	
<input type="checkbox"/>	2013-09-13	mdes	mdes-V09-06-13	mdes-V09-06-13		Download		

Do Wiki/Twiki allow specifying CSS?

Should GEANT4 CSS, logo, etc. files be copied to other sites?

Are site maintainers interested/willing to adopt format?

With Content Management, other sites could be “absorbed”