

The slide features a decorative layout with blue lines and corner markers. A vertical line on the left and a horizontal line at the top intersect at a small circle in the top-left corner. Another horizontal line is positioned below the main title. A vertical line on the right and a horizontal line at the bottom intersect at a small circle in the bottom-right corner. The main title is centered between the top and bottom horizontal lines.

FLUKA with Geant4 Geometry

Beginners FLUKA Course

FLUKA with Geant4 Geometry

FLUGG is an extension of FLUKA that allows to

- Define the geometry, material assignments, magnetic field in the Geant4 format
- *navigate* in the geometry calling the Geant4 geometry classes
- Use all **FLUKA physics and scoring**
- FLUGG is available as a tar file from the FLUKA web page
- Presently updated to Geant4 version 9
- Compatible with FLAIR

WARNING:

- No geometry FLUKA debugger (not possible) , and no geoviewer

IMPORTANT NOTE:

- Only the *navigation* is performed by G4, the tracking (multiple scattering, approach to boundaries etc) is performed by FLUKA

Info: ATL-SOFT-98-039,
ATL-SOFT-99-004
<http://cern.ch/geant4/>

General structure of FLUGG

- The **Installation** procedure prepares **Libraries** with the G4 geometry classes and the FLUGG “wrappers”
- The **User** prepares the **Detector Construction** and a **C++ main** from template
- The application is built from **Flugg + FLUKA** library
- The **C++ main** calls **Geometry** initialization and **FLUKA “real” main**
- The **User** prepares a **standard FLUKA input** adding to it cards generated at initialization
- The **FLUKA “real” main** reads datacards and performs a “standard” run:
 - Calls to **Geometry** routines are redirected through **FLUGG** wrappers to G4 geometry methods
 - Output of results is the **standard FLUKA**

What is needed

FLUKA distribution	http://www.fluka.org
FLUGG tar file	http://www.fluka.org → tools → flugg
CLHEP libraries	http://proj-clhep.web.cern.ch/proj-clhep/
GEANT4 distribution	http://cern.ch/geant4/

WARNING:

- The CLHEP version must be compatible with the G4 version in FLUGG. → if 64 bit machine, use 32-bit compiles CLHEP
- Be careful to compiler “consistency” among libraries.

How to install:

- Step by step instruction can be found in the FLUGG web page, and in the FLUGG talk of Houston-2005 FLUKA course [available on the FLUKA course website]