Installing Geant4 Using the Workshop CD

Fermilab Geant4 Workshop

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What's on the CD?

- Welcome.html <- Start here
  - /Geant4.5.2
    - Files for installing Geant4
  - /Slides/Fermilab
    - Slides for all talks at workshop
  - /Documentation
    - /Geant4 Users Guide, Installation Instructions
    - /WorkshopExercises Exercise Instructions
  - /AdditionalSoftware
    - Some additional software for analysis, visualization
  - Each directory on CD has a README.html.
- CD is meant to be self-explanatory

Installing Geant4 from the CD

- Three methods:
  - Normal G4 install from source
    - Best learning experience
    - Beware:
      - takes 1-n hours to compile Geant4 from scratch
  - Pre-Compiled G4
    - Code is precompiled to avoid need to wait
      - All source code is included, so still possible to modify flags and recompile/link as necessary
      - Available for
        - RedHat 9 with gcc 3.2.2
        - Windows with Visual C++ 6
  - Use version already installed on FNALU Linux

Install G4 from source

- **You need:**
  - clhep 1.8.0 (HEP Utilities)
  - geant4.5.2.p02.tar.gz (or geant4_5_2_p02.zip)
    - All of these files are on the CD. Most in Geant4.5.2/install/ directory. See README.html in that directory.
  - Unix:
    - Need gcc 3.2.x (recommended) or gcc 2.95.3
  - Windows:
    - Need Visual C++ 6, cygwin, WinZip
  - Instructions on CD, as part of Installation Exercise.

Install Pre-Built Geant4

- Two versions available
  - Windows (95/98/Me/Nt/2000/XP)
    - .zip file
  - Linux (.tar.gz)
    - gcc 3.2.2
      - This will probably not work if you have a (significantly) different compiler.
  - Both versions just give you the output you would get by building yourself, but save you the n hours of compilation time.
  - You still need to build the tutorial example (A01) yourself.
- In directory Geant4.5.2/pre-built
- Instructions on CD, as part of Installation Exercise

Getting started with the exercises

- Once you have installed and compiled Geant4 you can start with the A01 example.

- Follow instructions on CD by clicking on "Installing Geant4 and Quick Tour" from welcome page.

- A01 instructions include examples of using visualization and analysis

  - Intended as a quick way to get started
  - More background information on visualization and analysis during Analysis and Visualization tutorial.

Exercises

- Workshop contains several exercises:
  - Installing Geant4 and Quick Tour
  - Implementing a Geometry
  - Particles and Interactions
  - Sensitive Detectors
  - Analysis and Visualization
- Each exercise has its own version of the A01 example, make sure to pick up the right version for each exercise.
 - In Documentation/WorkshopExercises/Code

Visualization - Java and WIRED

- Running the visualization part of A01 exercise will generate .HepRep files.
- To view files you need to install:
  - Java and WIRED
    - Both are included on the CD, with installation instructions
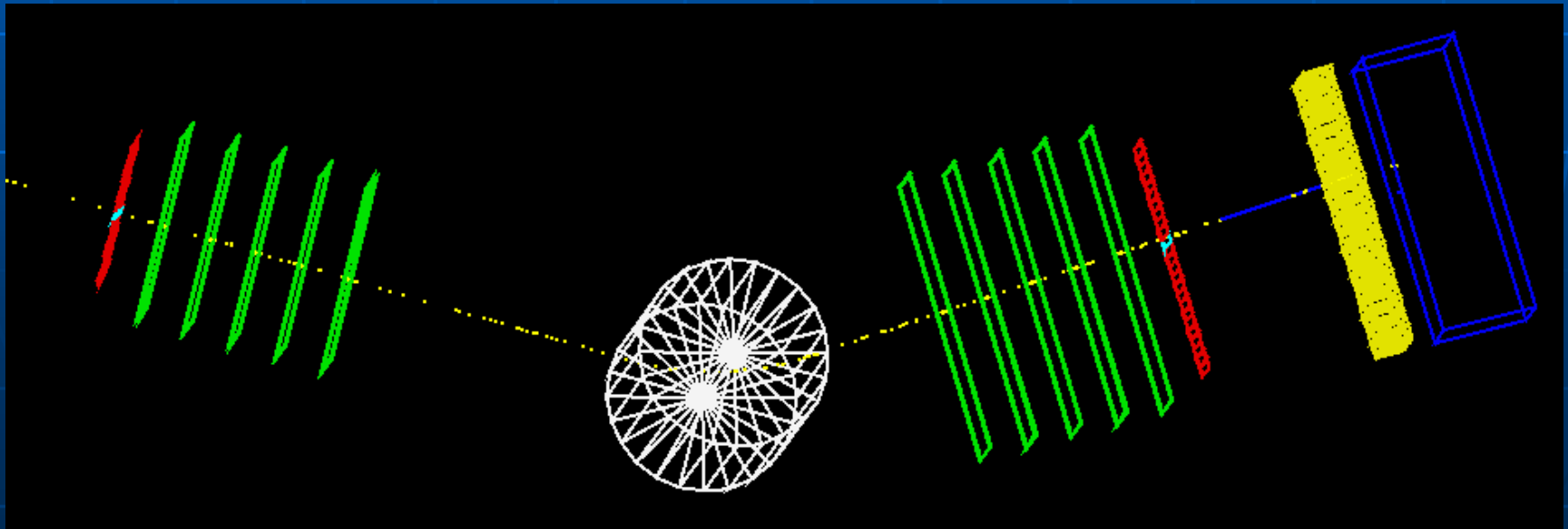
Analysis – AIDA/JAS3

- **The analysis part of A01 exercise explains how to use AIDA.**
  - AIDA is an analysis interface that can be used with several different analysis packages
  - CD includes instructions on installing and running JAIDA – a simple AIDA implementation, plus JAS3 for offline analysis of .aida files.
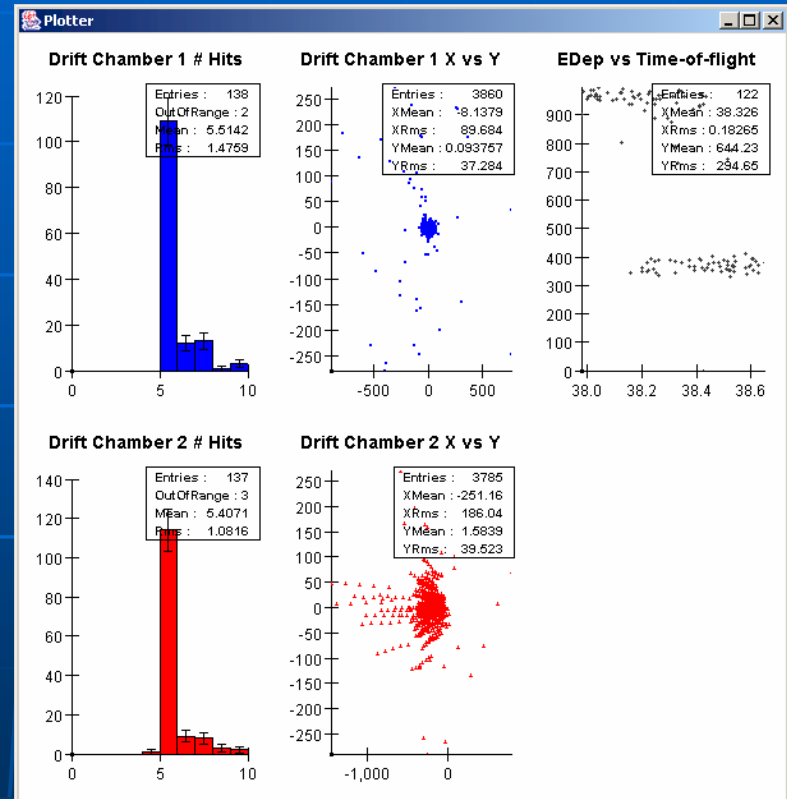
What if I don't have a CD reader?

- The CD is accessible at:
  - http://geant4.slac.stanford.edu/g4cd/
    - Using your own CD is better!
- We will post fixes for any problems discovered with the CD at:
  - http://geant4.slac.stanford.edu/g4cd/errata/