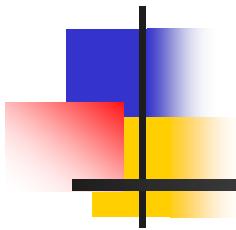




# VMC Geometries



**VMC Workshop**  
**29-30 November 2004**

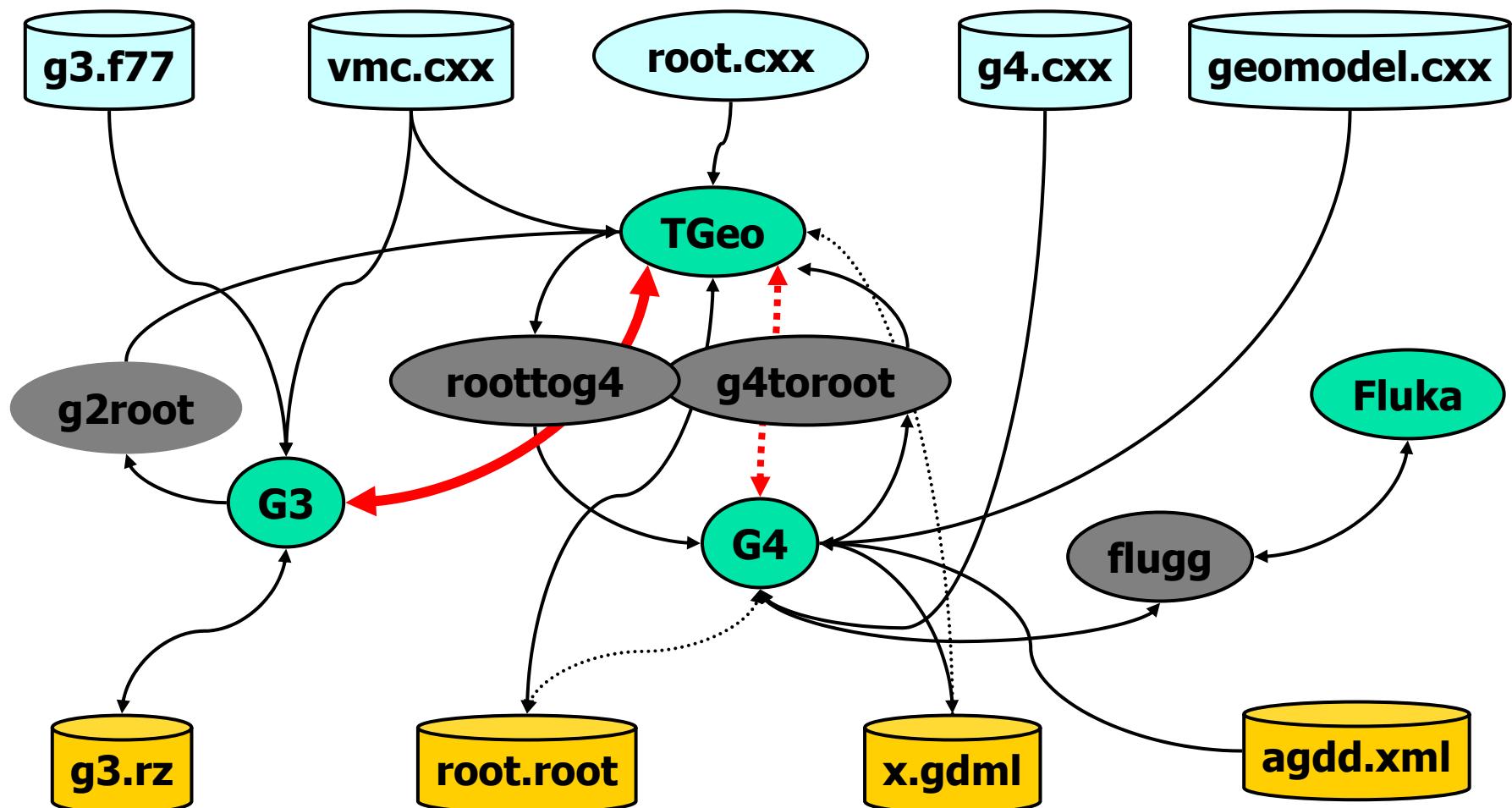
René Brun  
CERN/PH/SFT



# Motivation

- Discuss existing interfaces
- What is missing
- Is TGeo complete?
- Our current work with visualisation
  - OpenGL based
  - Viewing track trajectories and calorimeters
  - Viewing dynamic particles
- Illustration with demos

# Interfaces



VMC geometries



# OpenGL / X3D / pad viewers

- TPad viewer: low quality graphics: quick debug and inspection
- X3D viewer: frozen development
- OpenGL: main direction for
  - Detector visualization
    - With projections
    - Cuts
  - Track visualization
    - Static trajectories
    - Dynamic particles

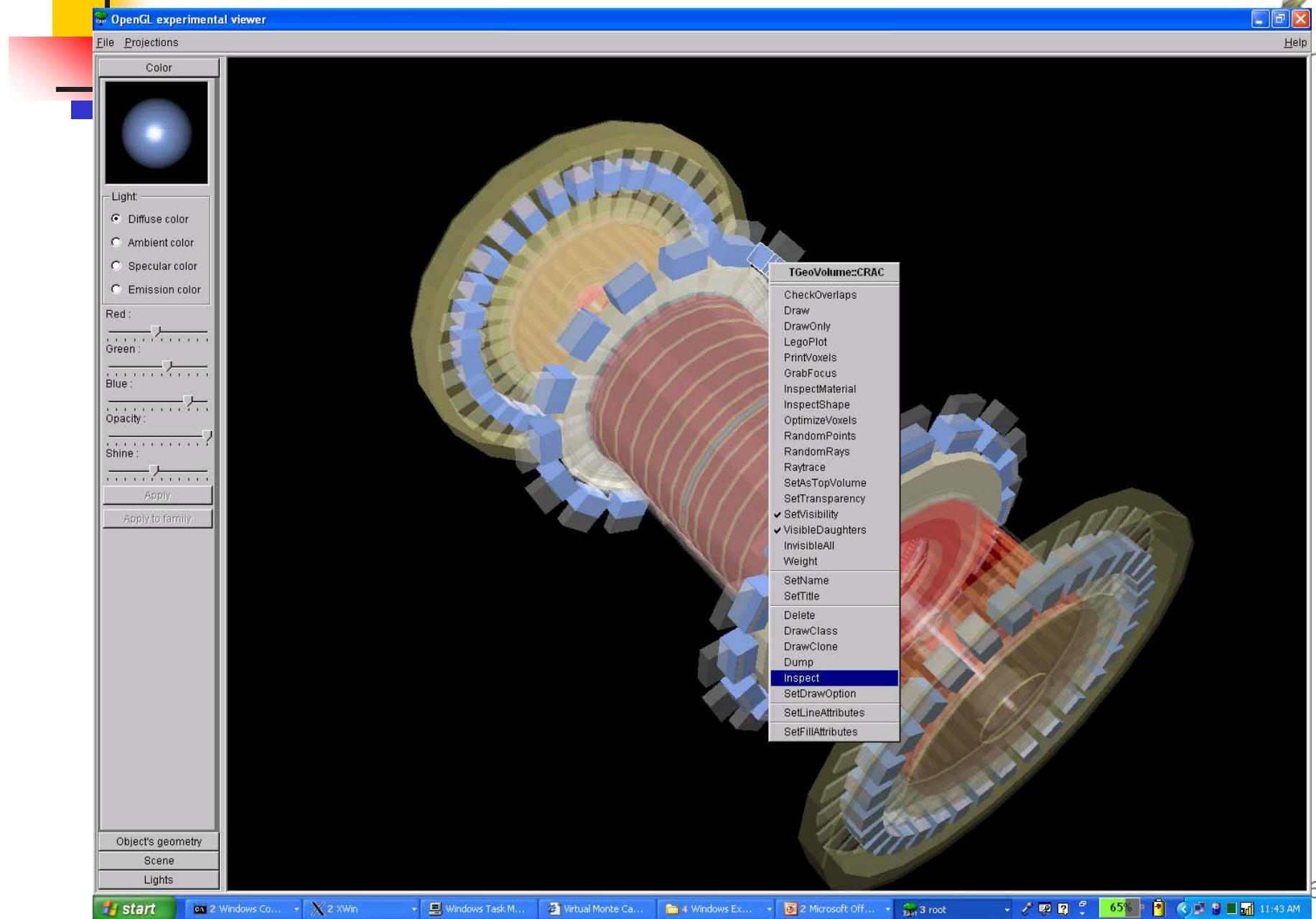


# Select OpenGL as default

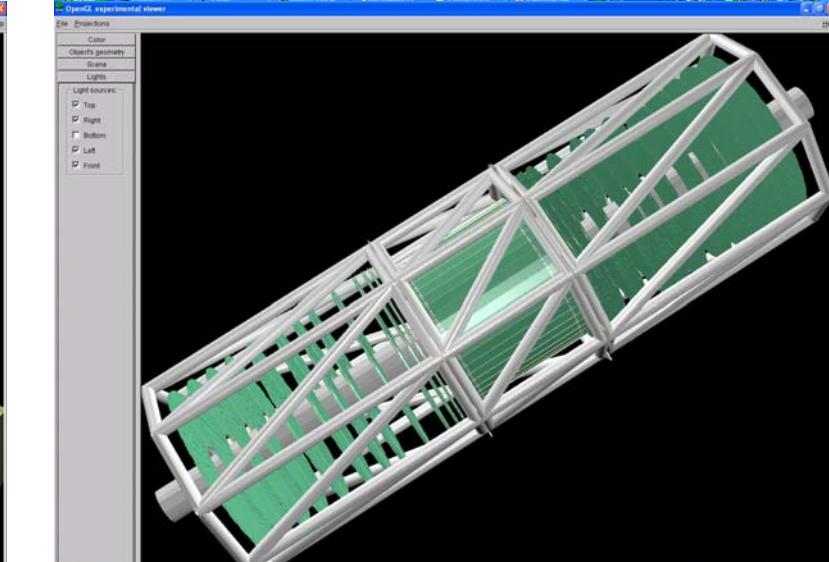
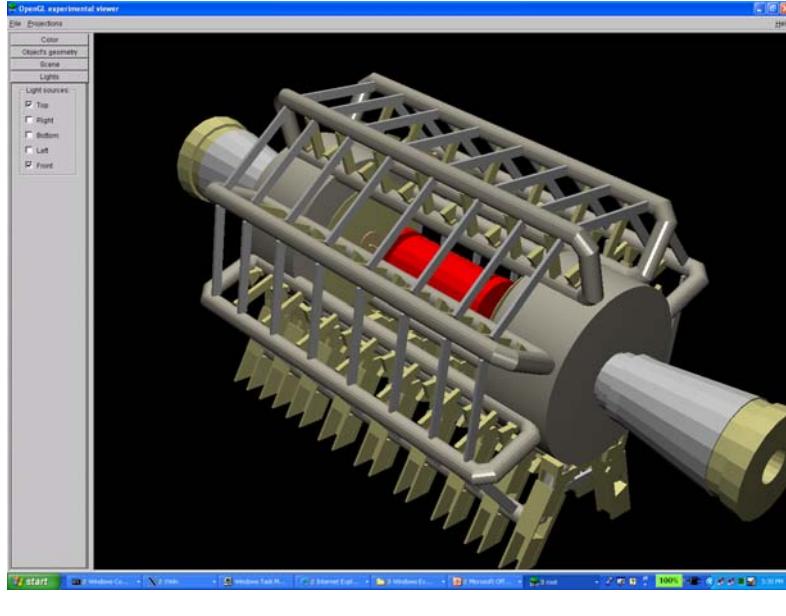
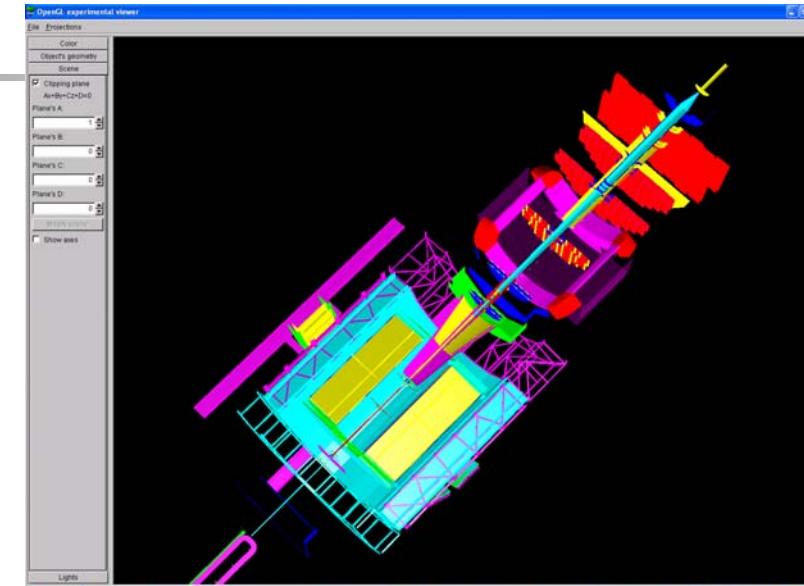
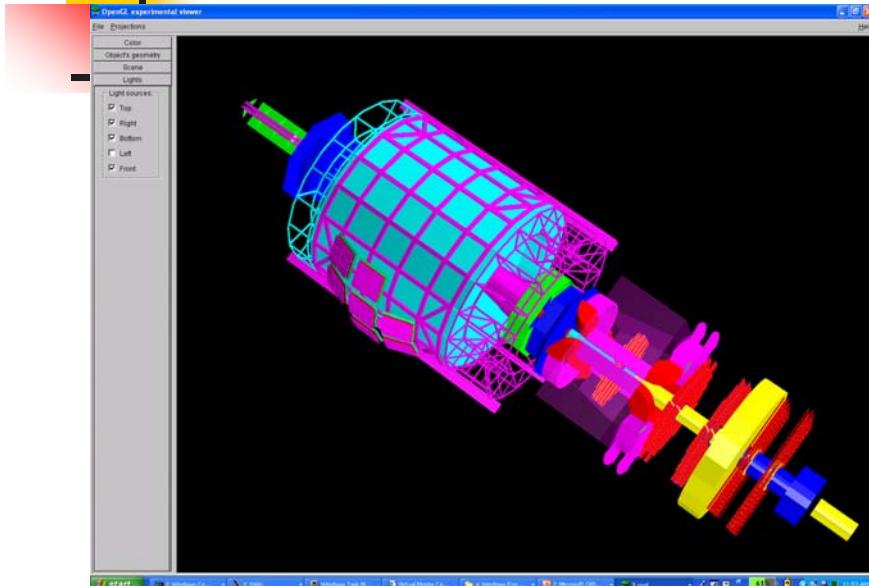
- In your system.rootrc (or .rootrc) file

```
# Default 3d Viewer.  
# By default 3-D views are shown in the pad,  
# if the next line is activated, the default viewer will be OpenGL.  
Viewer3D.DefaultDrawOption: ogl
```

# TViewerOpenGL



# TViewerOpenGL



VMC geometries

# TViewerOpenGL



**OpenGL experimental viewer**

**LHCb geometry  
GDML->G4->ROOT**

The image shows a screenshot of the OpenGL experimental viewer application. On the left is the ROOT Object Browser, displaying a hierarchical tree of geometry objects. The main window shows a 3D rendering of the LHCb detector geometry, specifically the muon system, which consists of several layers of rectangular modules. A legend on the right indicates light sources: Top (unchecked), Right (checked), Bottom (checked), Left (unchecked), and Front (unchecked). A yellow speech bubble points from the text "LHCb geometry GDML->G4->ROOT" towards the viewer window. The bottom of the screen shows the Windows taskbar with various icons and the text "VMC geometries".