

# Visualization Developments and Plans

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for the Geant4 Visualization WG

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# Highlights of the current Beta - 1

- Added new `/vis/open` command for OpenGL viewers/`/vis/open OGL`
  - This new form allows the same macro to be used whether one is on Linux or Windows (calling `OGLSX` on Linux and `OGLSWin32` on Windows).
  - When the example has been built with Qt, it will use the Qt form of OpenGL.
  - When the example has been built with Motif, it will use the Motif form of OpenGL.
  - Also added options `OGLI` and `OGLS` to force Immediate or Stored use while still being somewhat generic.
  - The user is still free to use the older, specific viewer names, such as `OGLIX`, but the simple form, `OGL`, will give the most portable macros.
- Added new `/vis/open` command for OpenInventor, `/vis/open OI`
  - This new form allows the same macro to be used whether one is on Linux or Windows (calling `OIX` on Linux and `OIWin32` on Windows).

# Highlights of the current Beta - 2

- ✦ Modified trajectory modeling command
  - ✦ `/vis/modeling/trajectories/create/drawByParticleID`
    - ✦ Used to default all trajectories to grey, with the user having to explicitly set any other color code.
    - ✦ While the user can still set any color code they wish, the default has been improved to:
      - ✦ e- - red
      - ✦ e+ - blue
      - ✦ proton - cyan
      - ✦ gamma - green
      - ✦ neutron - yellow
      - ✦ pi+, pi-, pi0 - magenta
      - ✦ other - grey
- ✦ Added new commands
  - ✦ `/vis/scene/add/digis` and `/vis/filtering/digi`
  - ✦ analogous to the already-existing commands
    - ✦ `/vis/scene/add/hits` and `/vis/filtering/hits`
  - ✦ Just as the user of hits visualization has to provide a hits class, the user of the digitization visualization has to provide a digi class

# Highlights of the current Beta - 3

- Speed improvements for OpenGL
  - removing redundant transmissions of points and unnecessary redraws
- Many improvements to Qt.
  - See Laurent's talk.
- Updated visualization usage in most examples.
  - See John's talk.

# What's Left for December Release?

- Qt is on its way to full status (getting out of Beta).
  - See Laurent's talk.
- gMocren runs on all platforms now.
  - Still need to update documentation and tutorials.
- DAWN has been updated.
  - Satoshi still planning to update WinDAWN to support Windows Vist/7.
  - Still need to update documentation and tutorials.
- OGLFile: Proposed new driver, uses OpenGL to makes PS, EPS, JPG without graphics window.
  - We want this but don't know that we'll get it done. Not straightforward.
- N03 VisTutor Examples: General Revision
- Add testing of Visualization to the Release Procedure

# Rest of This Session

- Qt: Current status, remaining work to move from Beta to Full Release
  - Laurent Garnier
- gMocren and other new Volume Visualization Developments
  - Joseph Perl (standing in for the gMocren team)
- How and why we updated the Vis usage in almost all of the Examples
  - John Allison
- Open Discussion on ongoing Vis priorities