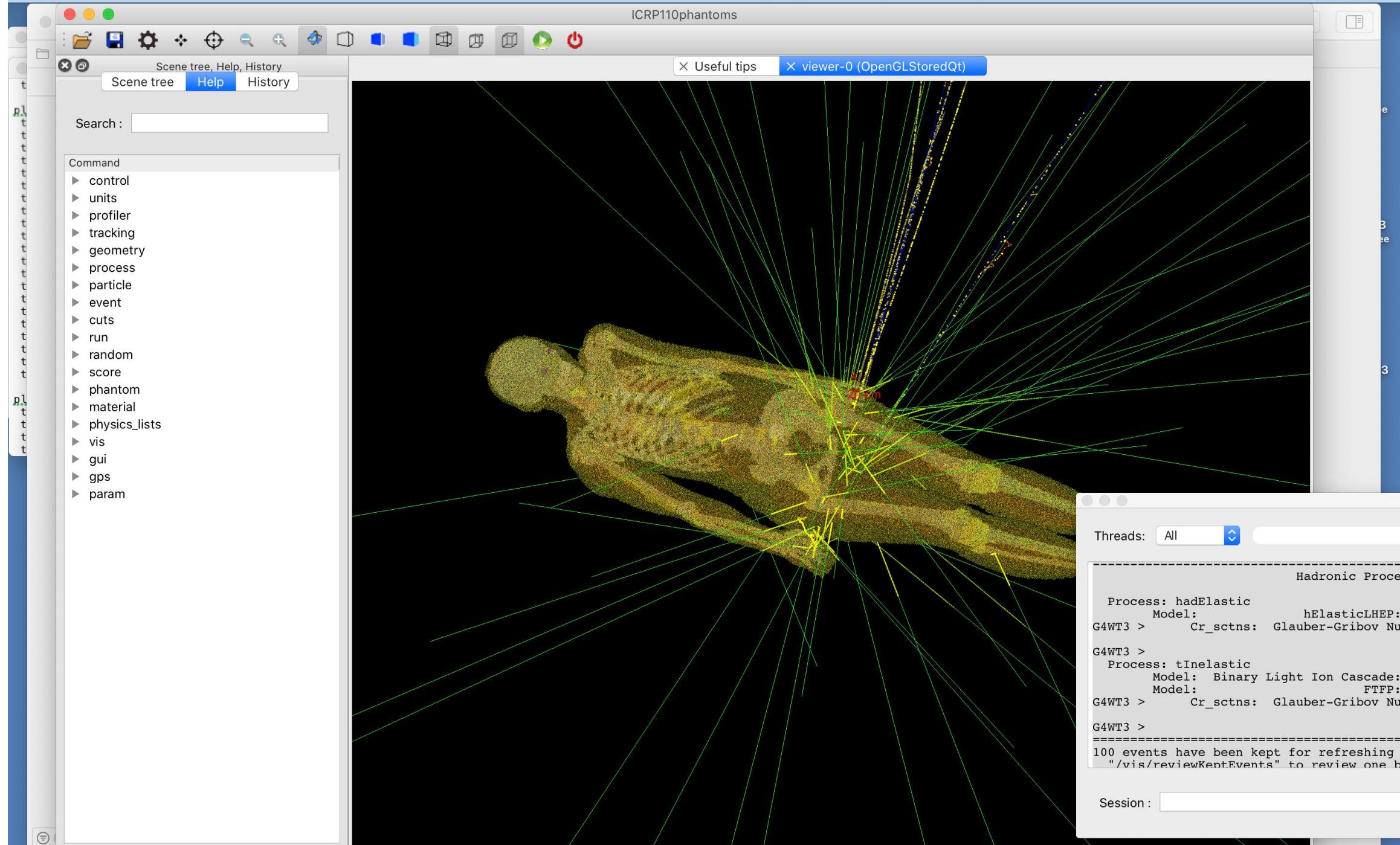


Fast drawing in the ICRP Human Phantoms examples

- /examples/advanced/ICRP110HumanPhantoms
 - an old example with faster drawing
- /examples/advanced/ICRP145HumanPhantoms
 - a new example
- “Special Mesh Rendering”
 - a new feature presented in the vis session by John Allison and Evgueni Tchaerniev

ICRP110—an old example with improved visualisation

- Macros modified to take advantage of developments in `graphics_reps` (Evgeni Tcherniaev) and in visualization (John Allison) (*described elsewhere*)
- The human phantom and beam trajectories can be visualised in a performant way—10 fps or better on my old Mac (MacBook Pro (Retina, Mid 2012), 2.7 GHz Quad-Core Intel Core i7, 16 GB)
- Rectangular parameterisation rendered as dots: 3,885,291 dots:
 - `/vis/viewer/set/specialMeshRendering`
 - `/vis/drawVolume`
- Try “`/viewer/interpolate g4views 1000 0`”, which runs a cutaway plane through the phantom.
 - See `examples/extended/visualization/movies` for how to create and interpolate “view-files” for interpolation
- Can also be rendered as surfaces:
 - `/vis/viewer/set/specialMeshRenderingOption surfaces`



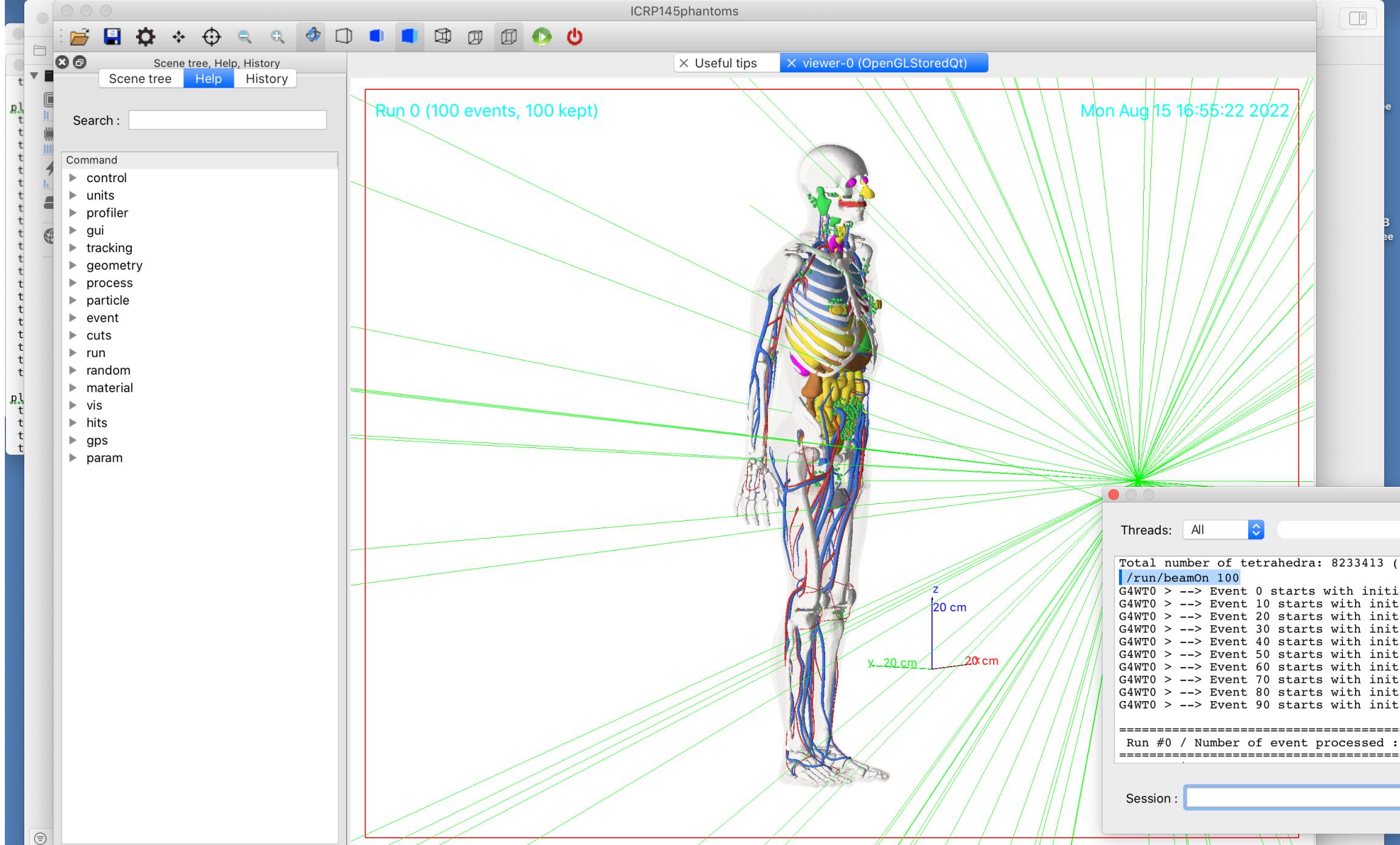
ICRP145

A new example

From icrp.org/publication.asp?id=ICRP%20Publication%20145
ICRP, 2020. Adult mesh-type reference computational phantoms. ICRP
Publication 145. Ann. ICRP 49(3)
C.H. Kim, Y.S. Yeom, N. Petoussi-Henss, M. Zankl, W.E. Bolch, C. Lee, C.
Choi, T.T. Nguyen, K. Eckerman, H.S. Kim, M.C. Han, R. Qiu, B.S. Chung, H.
Han, B. Shin

Implementation as a Geant4 example

- Source code implemented and provided in ICRP Publication 145. Ann. ICRP 49(3).
- Principle coder: haeginh@hanyang.ac.kr
- Modified to take advantage of developments in graphics_reps (Evgeni Tcherniaev) and in visualization (John Allison) (*described elsewhere*)
- The human phantom and beam trajectories can be visualised in a performant way—[1 fps or better on my old Mac.](#)
- Total number of tetrahedra: 8,233,413 (32,933,652 faces) are reduced to 4,807,770 facets (14%) for visualisation (tracking is not affected):
 - /vis/viewer/set/specialMeshRendering
 - /vis/viewer/set/specialMeshRenderingOption surfaces
 - /vis/drawVolume



Thankyou