News From Vertex

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Vertexing

Beam Monitor + Vertex

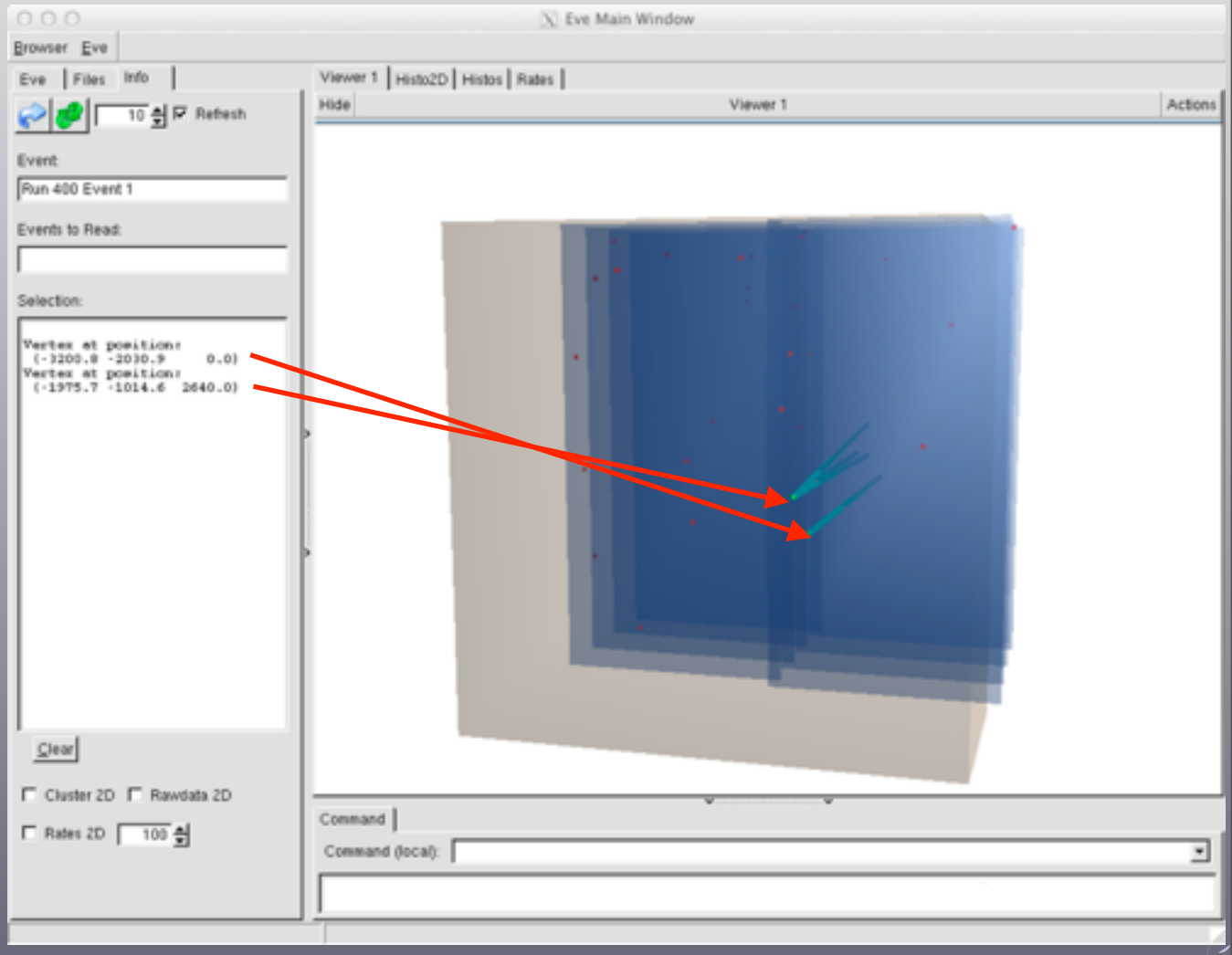
Global event display

Conclusion

Vertexing (i)

- New algorithms implemented (Regina Rescigno):
  - based on distance criteria
  - based on probability distributions

⇒ disentangle pileup vertices

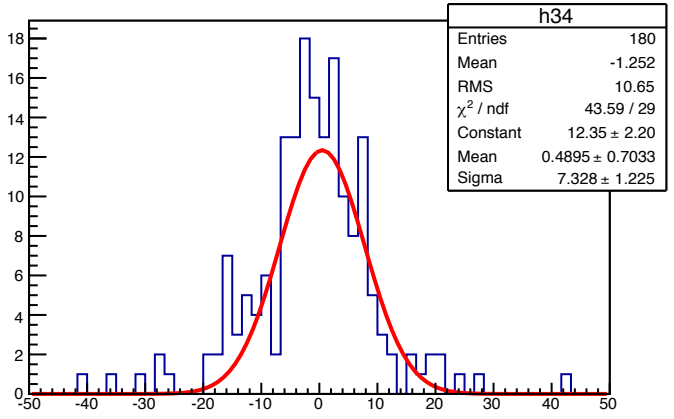


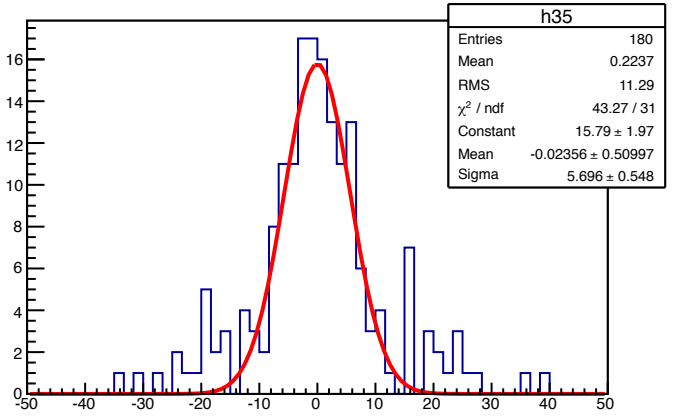
Vertexing (ii)

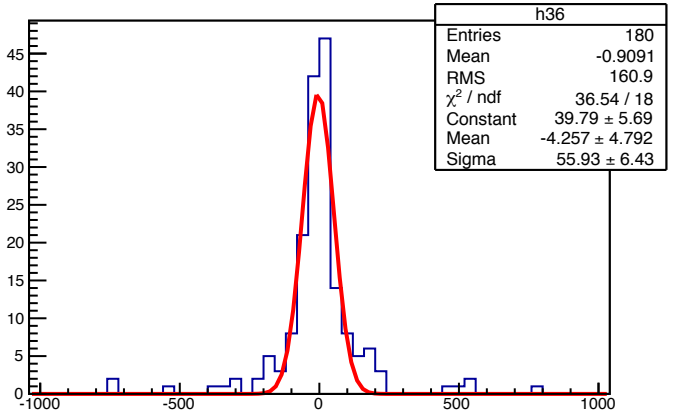
- Comparison with MC (Regina Rescigno):

  - Residuals for reconstructed vertex minus MC one

  (MC intrinsic residual 2 times better than in real)







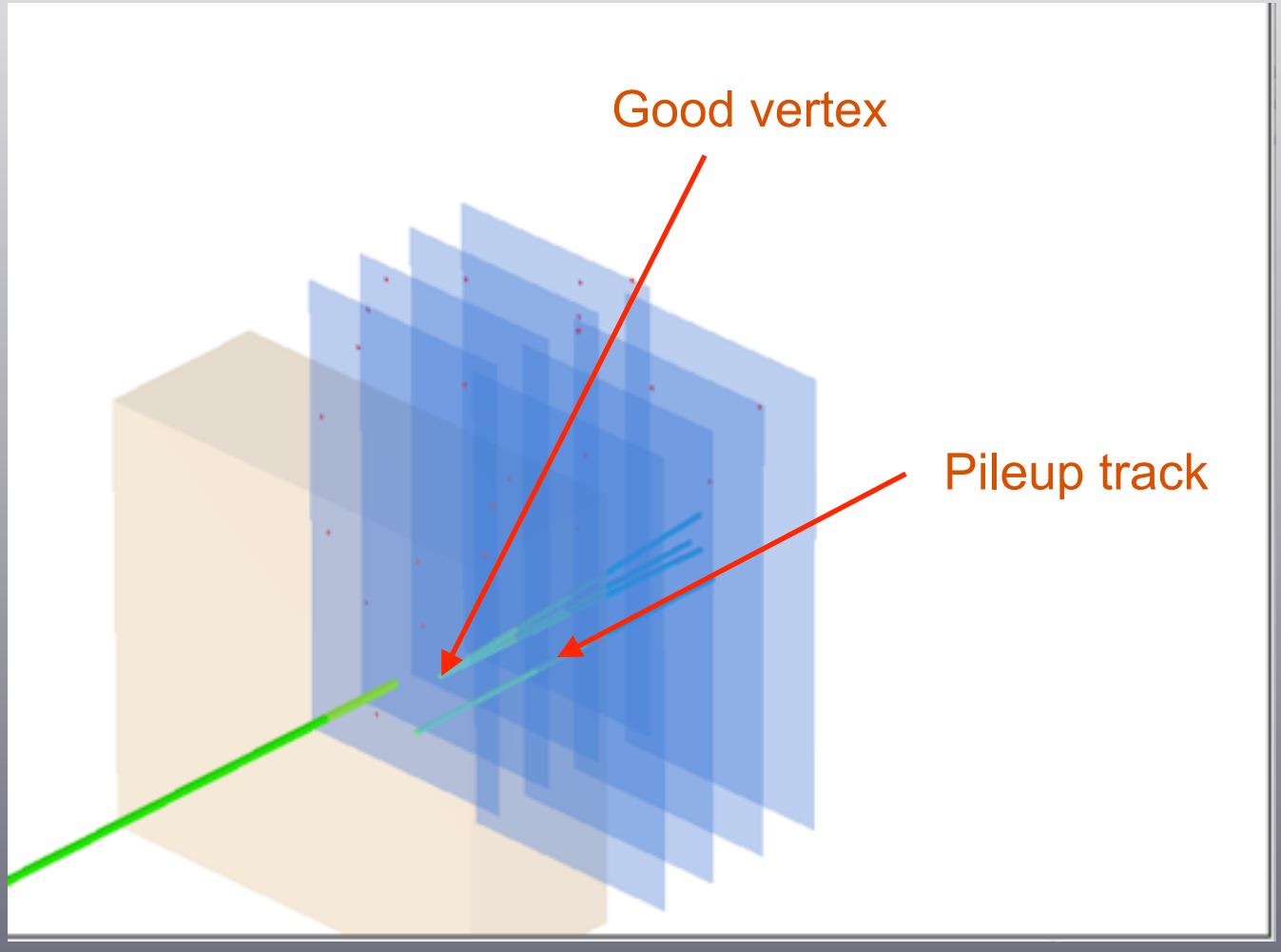
- Resolution XY: ~6 microns
- Resolution Z: ~ 50 microns

BM + VTX (i)

- New BM calibrations:

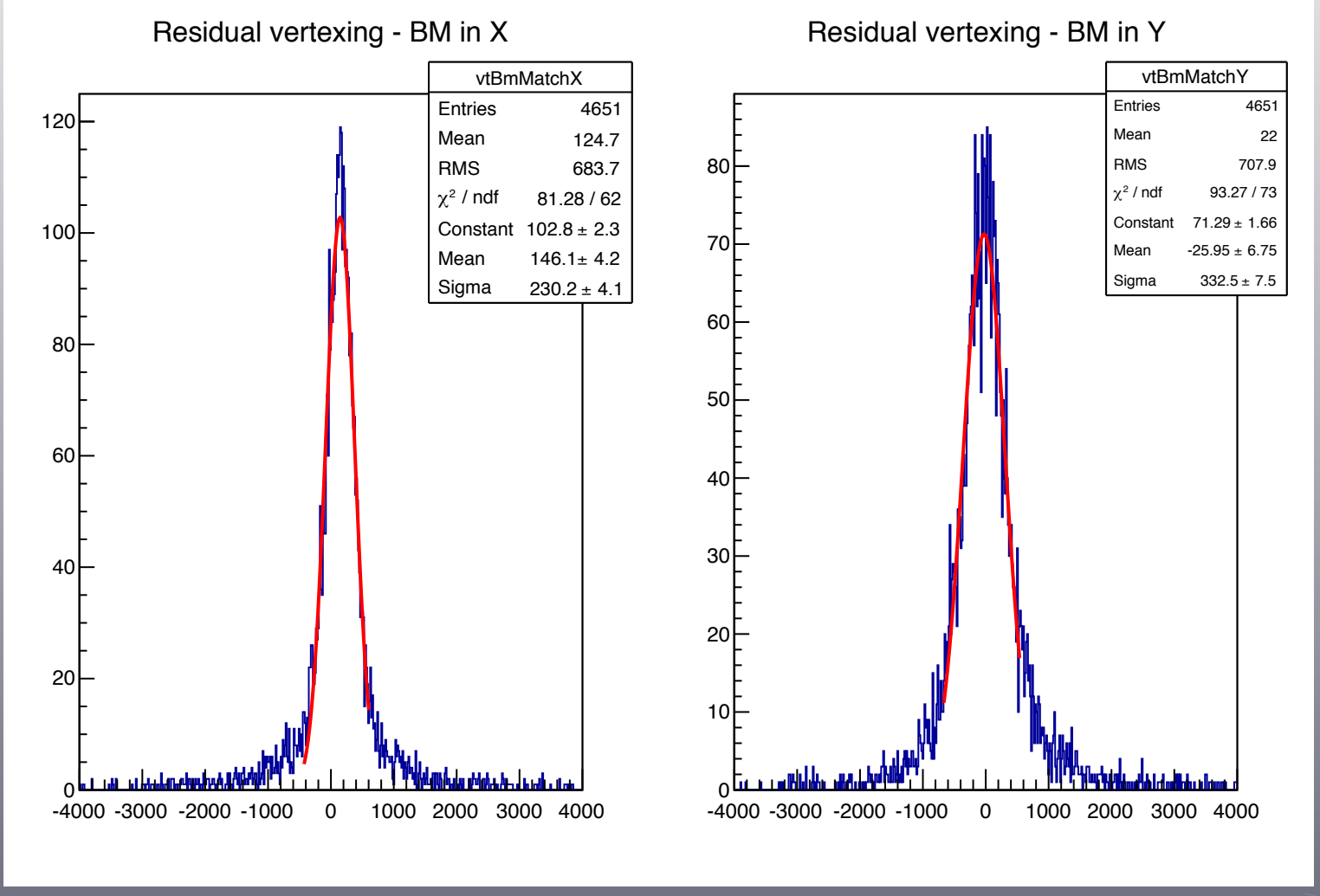
  - Good alignment now, thanks to Alessio !

⇒ tag the right vertex !



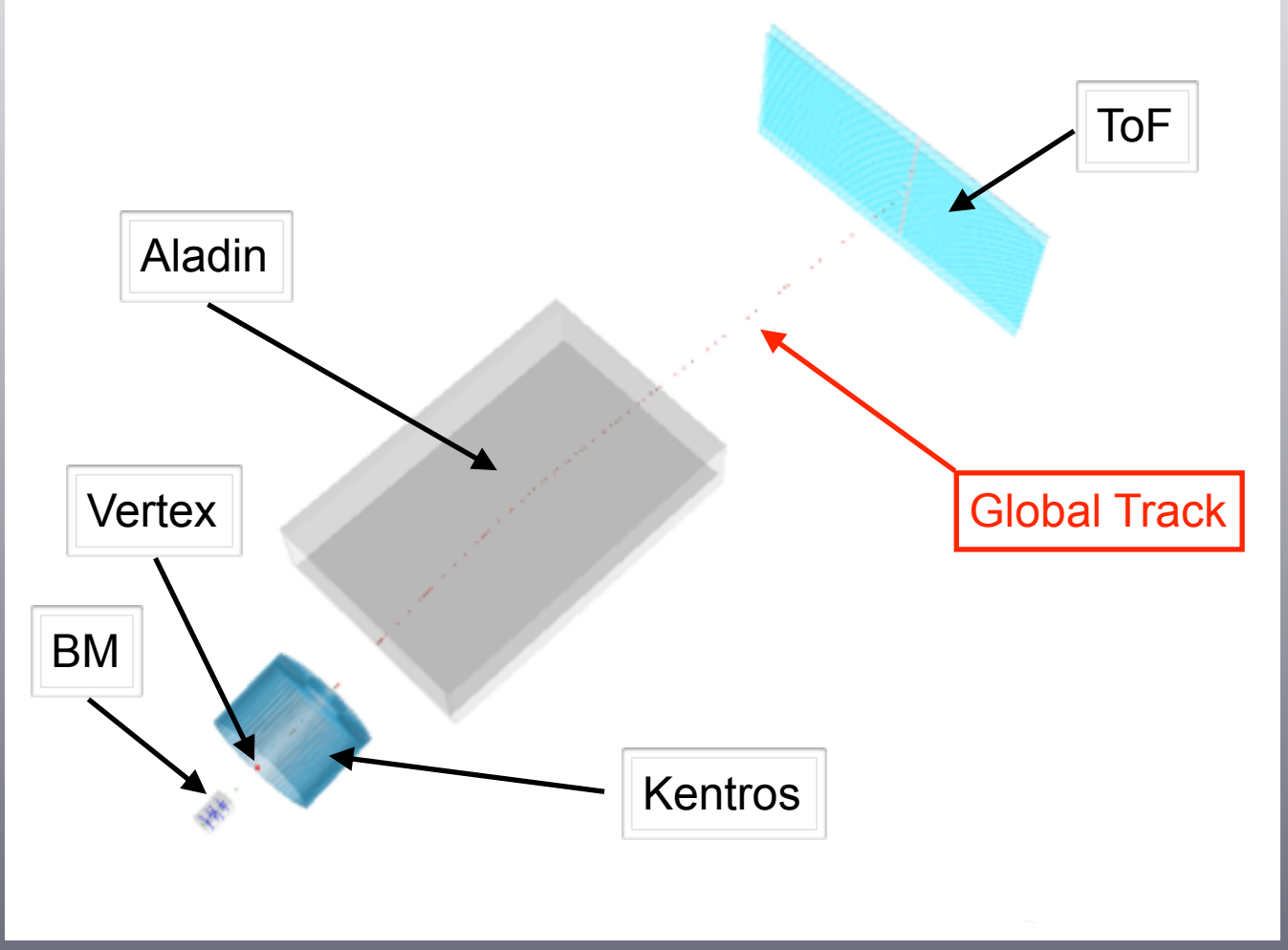
BM + VTX (ii)

- Residual btw vertex position and extrapolated BM track :



Global 3D event display (i)

- Global tracking (BM+VTX+ToF) done in GLOBAL reference framework:
  - Changing code accordingly (see Didier's talk)



Global 3D event display (ii)

- Running 3D display: (see macro GlbDisplay.C in macros/vertex folder)
  - Create root file from l0(mc)reco Decode pgm
  - Load libraries in Root

Instance with file name

```
root >  GlbEventDisplay* g =  GlbEventDisplay::Instance("filename.root");
root > g->DisableKentros();  //g->DisableToF(); //g->DisableBM();
root > g->EnableGlb();
root> g->ShowDisplay();
```

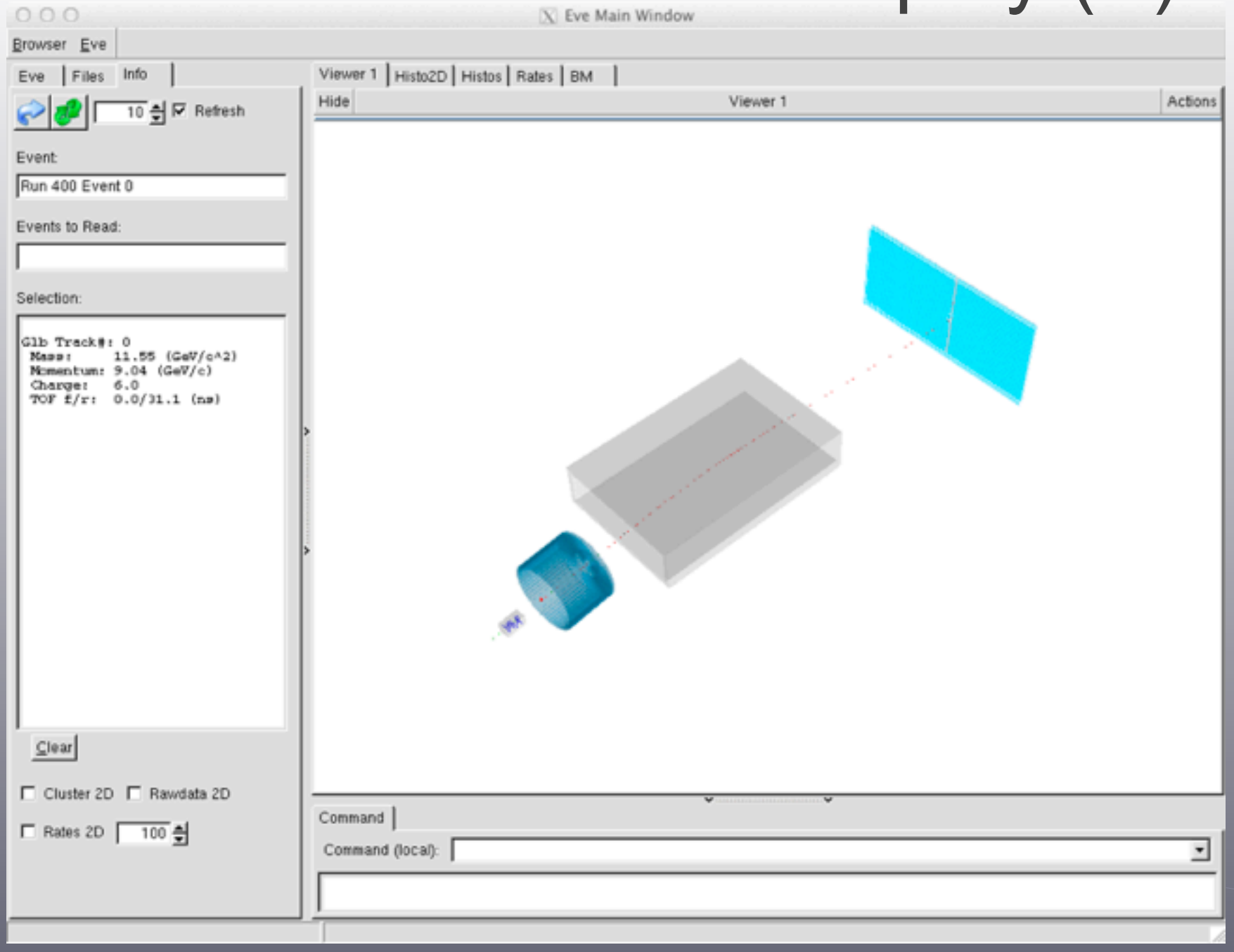
Enable/Disable

Enable Glb tracking

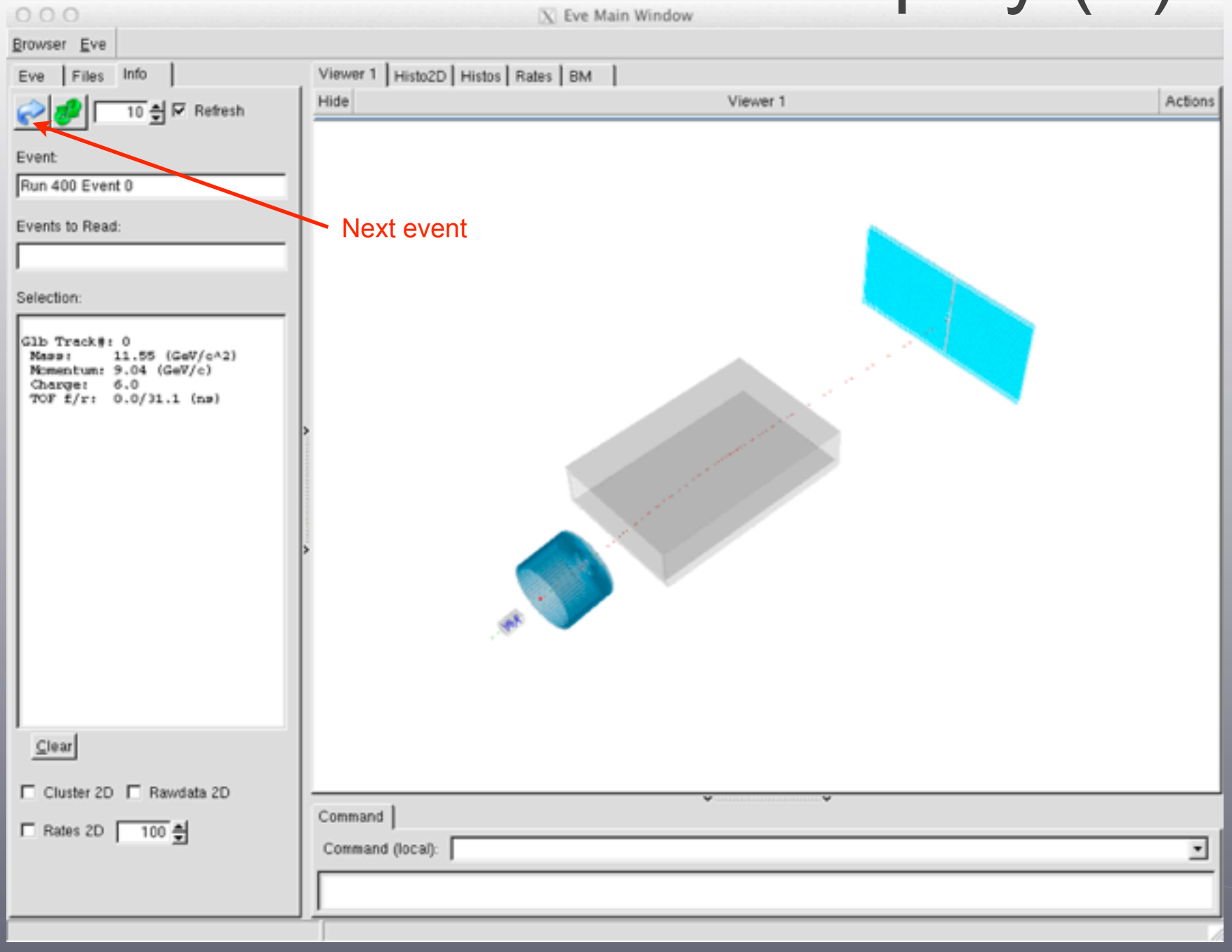
Show Eve window

⇒ Click onto the buttons

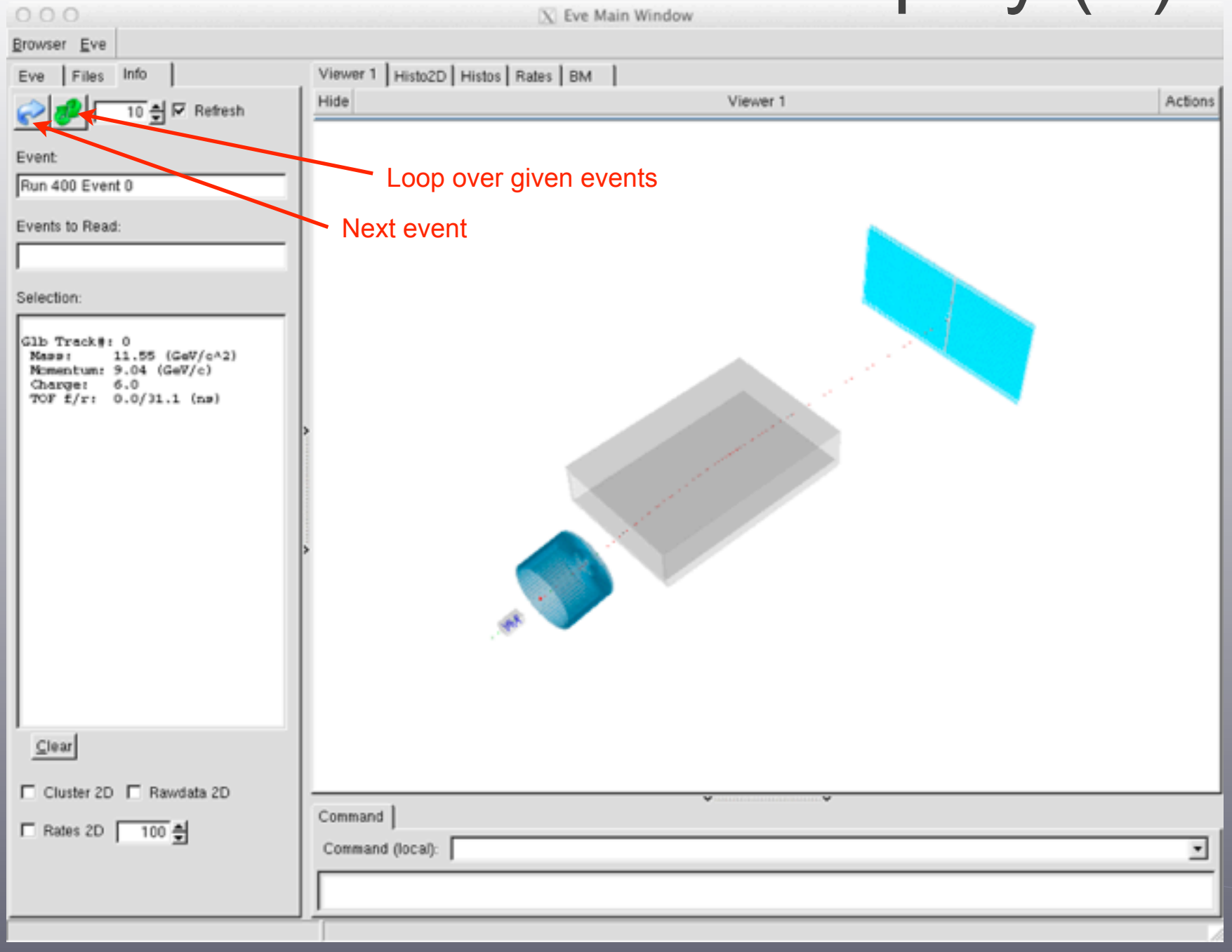
Global 3D event display (iii)



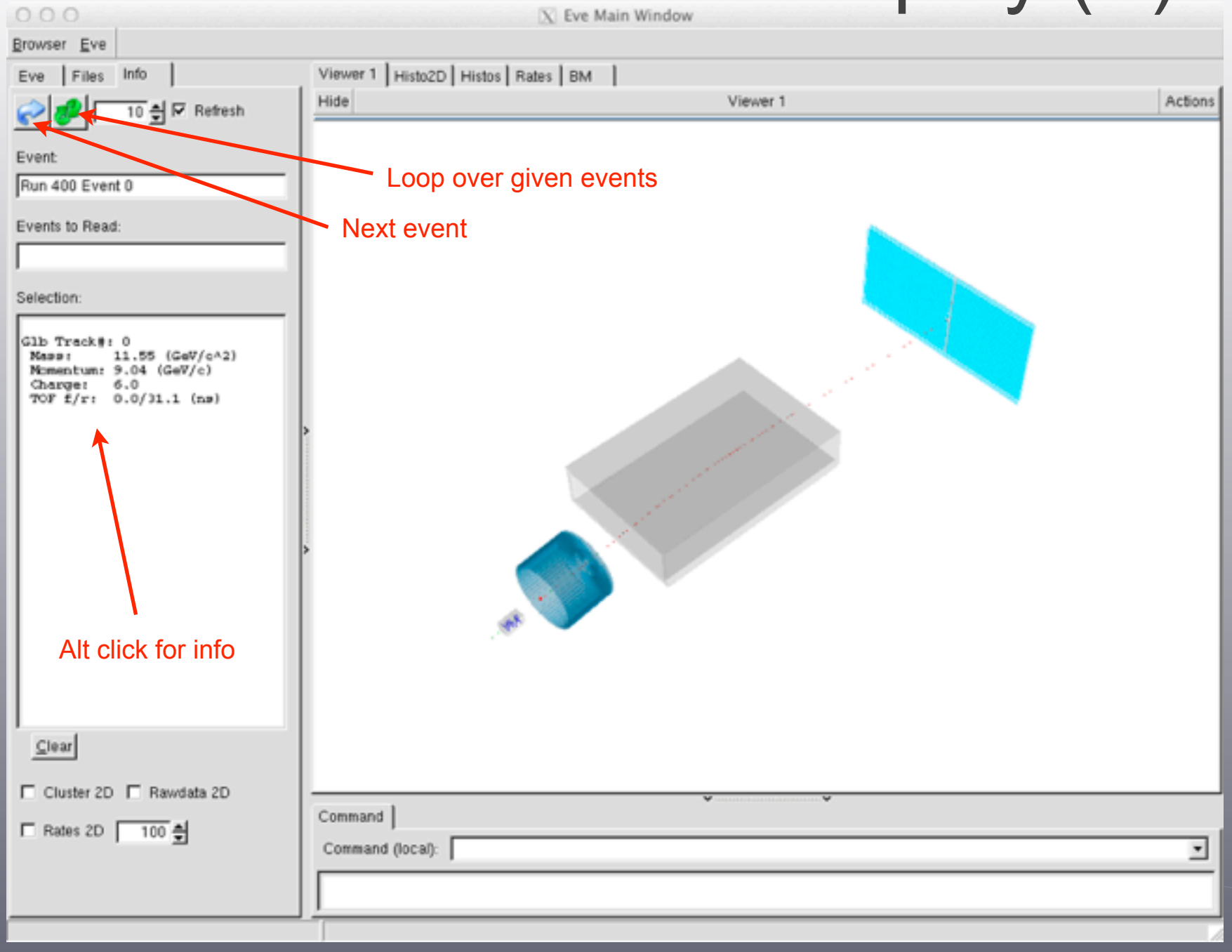
Global 3D event display (iii)



Global 3D event display (iii)



Global 3D event display (iii)



Conclusions

- Finalized vertexing ✔
- Matching BM+VTX ✔
- Global tracking in global framework ✔