

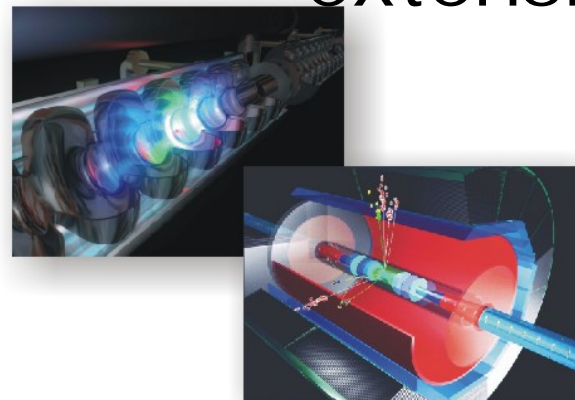
Why should we use SLIC for the simulation

- What is it?

SLIC: Simulator for the Linear Collider: <http://lcsim.org/software/slic/>

- Available on ILCSIM

- Geant 4 simulation with useful extension:



LCDD

- Linear Collider detector description xml based: an example ecal.lcdd is attached to the agenda representing a calorimeter of 200 layers of lead glass and scintillator. <http://lcsim.org/software/lcdd/>
- Can be visualized with root (geometry) or Wired/JAS (full event display) <http://jas.freehep.org/jas3/> <http://confluence.slac.stanford.edu/display/ilc/lcsim+Getting+Started>
- Easy to implement read out segmentation (sensitive detectors) example has 1 cm readout cells for both scintillator and lead glass.
- No recompiling necessary when geometry changes.
- Easy to integrate 'our' calorimeter with existing detector concepts e.g. What happens when we replace the SID calorimeter with a dual readout calorimeter.

LCIO

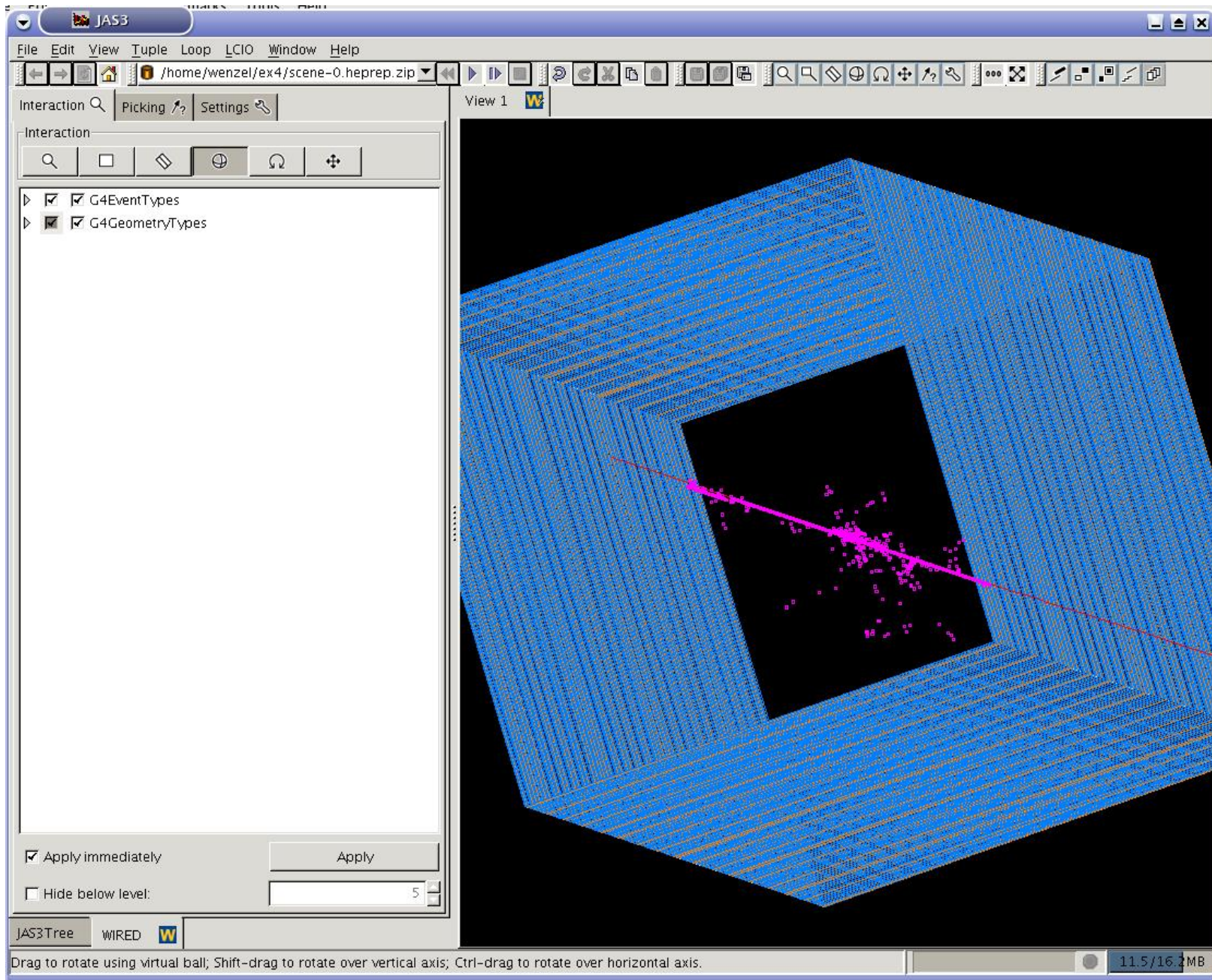
- Persistency framework for linear collider studies <http://lcio.desy.de/>
- Can be browsed/analyzed within jas.
- Lcsim.org analysis framework (JAVA based)
<http://confluence.slac.stanford.edu/display/ilc/lcsim+Tutorials>

SimDist

- <http://confluence.slac.stanford.edu/display/ilc/Simulation+Software+Distribution>
- Just run one script to compile and link.

Miscellaneous:

- Statically linked: easy to run on the grid/batch farm. I have scripts available seems very stable.
- Easy command line interface + Geant 4 macros.
- Some of the tools (e.g. interface with random generator that we are using were taken from SLIC already)



March 20th 2007

Hans Wenzel

Interaction

Interaction toolbar: Search, Select, Rotate, Undo, Redo, Zoom

Run: 0 Event: 0

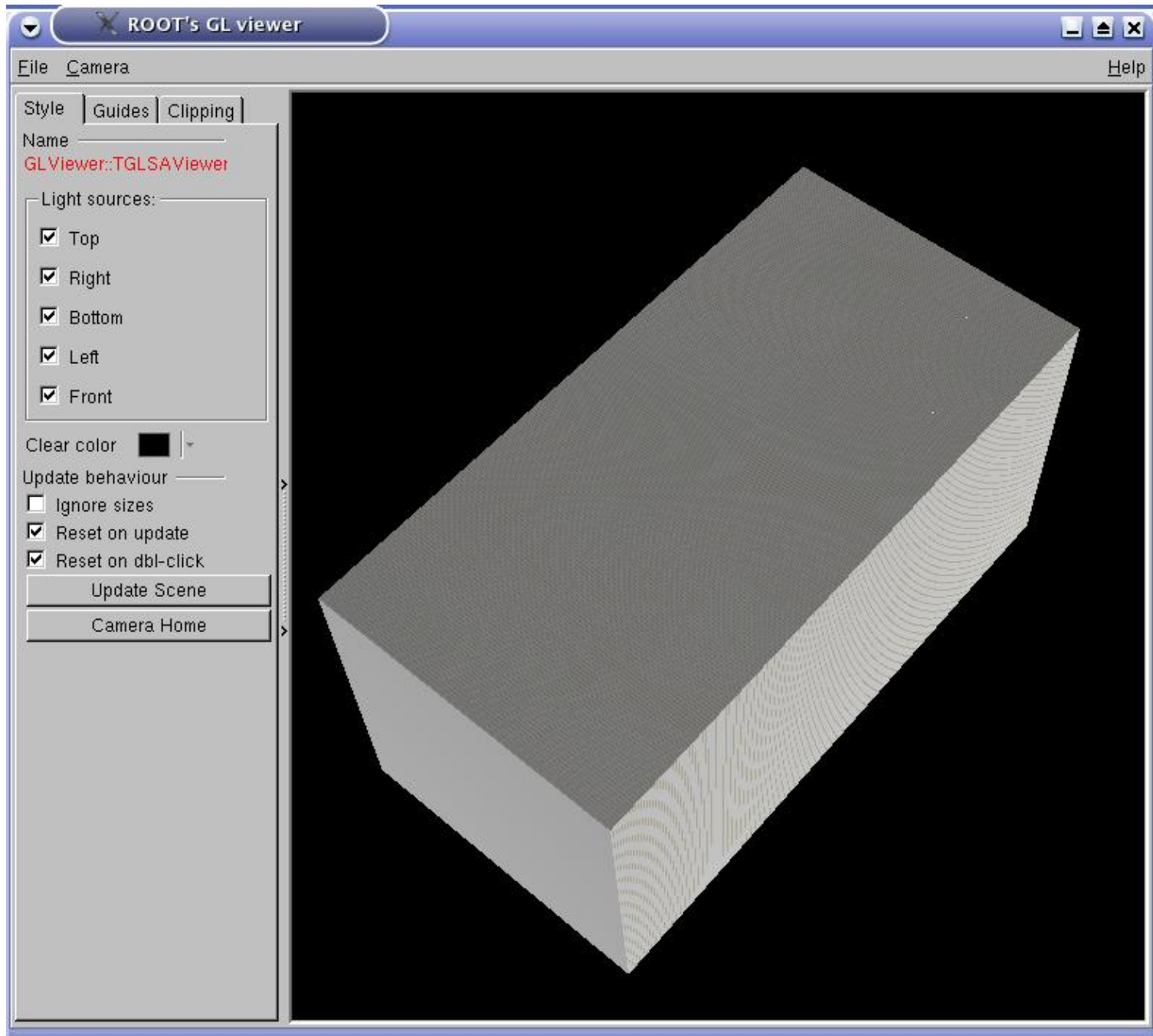
- Event
 - CerenHits
 - MCParticle
 - MCParticleEndl
 - ScintHits
 - MCParticleTree

Collection: CerenHits size: 486 flags: e0000000

id	raw energy ...	corrected e ...	x (mm)	y (mm)	z (mm)	time (ns)
0	.0092065	NaN	5.0000	-5.0000	-876.00	.40574
0	.0047376	NaN	5.0000	-5.0000	-866.00	.43769
0	.0052708	NaN	5.0000	-5.0000	-856.00	.47049
0	.0044950	NaN	5.0000	-5.0000	-846.00	.50883
0	.0039928	NaN	5.0000	-5.0000	-836.00	.54265
0	.0066100	NaN	5.0000	-5.0000	-826.00	.57307
0	.0056382	NaN	5.0000	-5.0000	-816.00	.60482
0	.0048611	NaN	-5.0000	-5.0000	-806.00	.64098
0	1.2113E-4	NaN	15.0000	5.0000	-616.00	1.4821
0	5.8311E-5	NaN	-5.0000	15.0000	-616.00	1.3934
0	1.0274E-4	NaN	-45.0000	45.0000	-686.00	1.1286
0	.0014375	NaN	-25.0000	35.0000	-716.00	.99922
0	1.1617E-4	NaN	-25.0000	-5.0000	-736.00	1.0324
0	2.2700E-4	NaN	-35.0000	5.0000	-726.00	.96424
0	2.1749E-4	NaN	-15.0000	15.0000	-766.00	.82476
0	1.0714E-4	NaN	-15.0000	5.0000	-766.00	.80195
0	.0075285	NaN	-5.0000	5.0000	-806.00	.63779
0	8.8005E-5	NaN	-135.0000	35.0000	-546.00	1.8968
0	1.2617E-4	NaN	-125.0000	35.0000	-546.00	1.8969
0	8.0509E-5	NaN	-145.0000	15.0000	-526.00	1.7978
0	3.3811E-4	NaN	-135.0000	15.0000	-516.00	1.7664
0	4.6271E-4	NaN	-45.0000	35.0000	-636.00	1.2635
0	9.3142E-4	NaN	-35.0000	15.0000	-666.00	1.1318
0	8.8005E-5	NaN	-25.0000	-25.0000	-756.00	.98365
0	2.5833E-4	NaN	-35.0000	-35.0000	-756.00	.98395
0	.0013176	NaN	5.0000	-15.0000	-746.00	.85486
0	.0015914	NaN	5.0000	-15.0000	-796.00	.69301
0	2.2330E-4	NaN	15.0000	5.0000	-806.00	.80644
0	8.7041E-5	NaN	-5.0000	-5.0000	-796.00	.74285
0	2.0066E-4	NaN	-5.0000	-15.0000	-796.00	.70446
0	2.4935E-4	NaN	-5.0000	-35.0000	-656.00	1.2483
0	.0016180	NaN	5.0000	-45.0000	-646.00	1.2016
0	1.5861E-5	NaN	5.0000	-35.0000	-646.00	1.2811
0	6.9275E-5	NaN	5.0000	-15.0000	-646.00	1.2812
0	2.8915E-4	NaN	-5.0000	-145.0000	-506.00	1.9693
0	6.3684E-5	NaN	-5.0000	-135.0000	-496.00	1.9214
0	1.9787E-5	NaN	-15.0000	-115.0000	-496.00	1.8681
0	1.9101E-4	NaN	-25.0000	-75.0000	-506.00	1.7134
0	6.0643E-4	NaN	-5.0000	-65.0000	-526.00	1.6286
0	9.9158E-4	NaN	5.0000	-75.0000	-546.00	1.5328
0	8.8005E-5	NaN	-5.0000	-125.0000	-476.00	1.9753
0	1.7787E-4	NaN	-15.0000	-135.0000	-476.00	1.9754
0	4.5877E-4	NaN	25.0000	-105.0000	-466.00	1.8399
0	.0034864	NaN	5.0000	-15.0000	-816.00	.60736

Apply immediately Apply

Hide below level:



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What's next:

- Modify sensitive detector to score only Cerenkov light in lead glass like we are doing now in G4Stackingaction.
- Add root analysis.