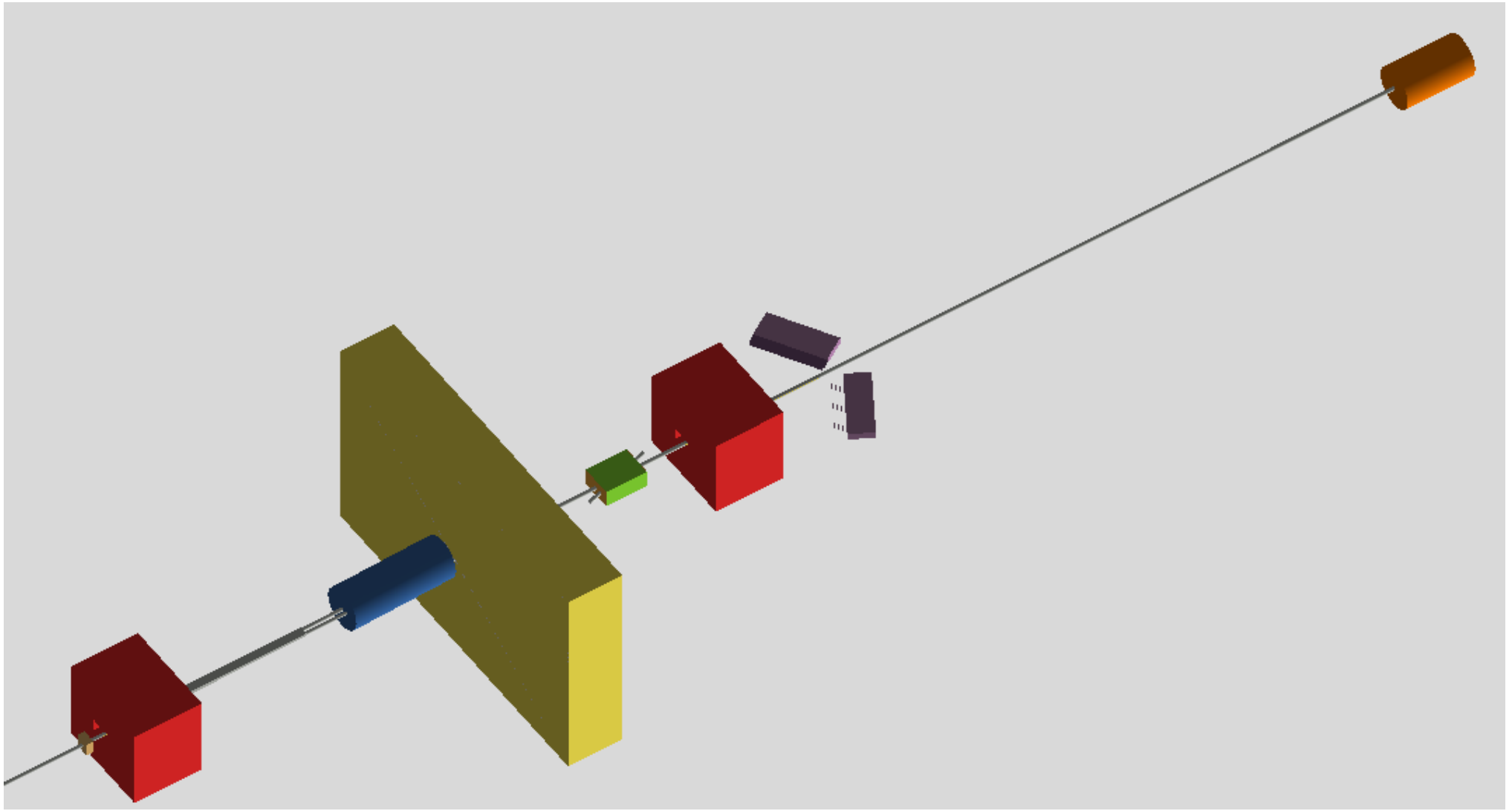
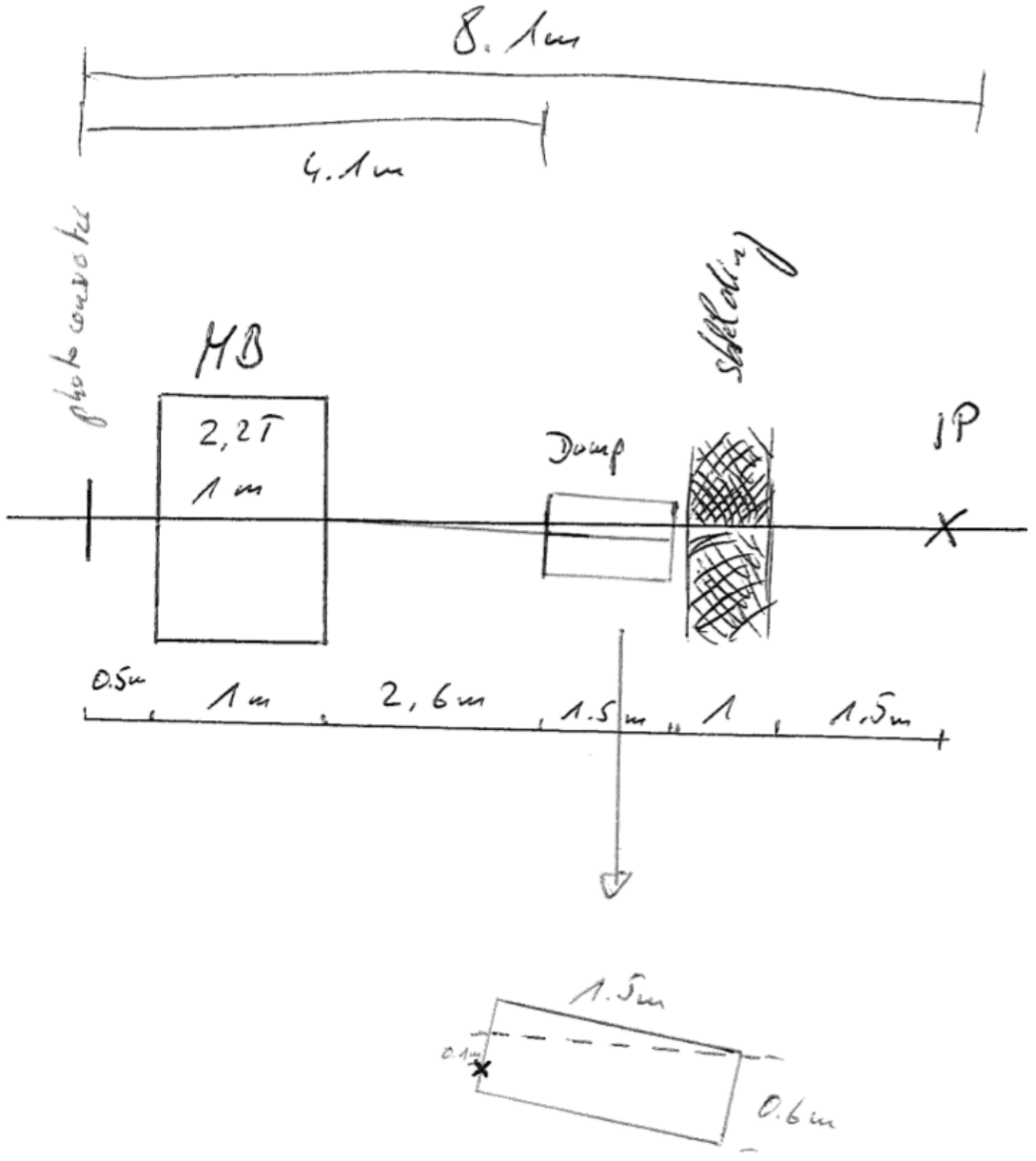
LUXE Background Study in Simulation

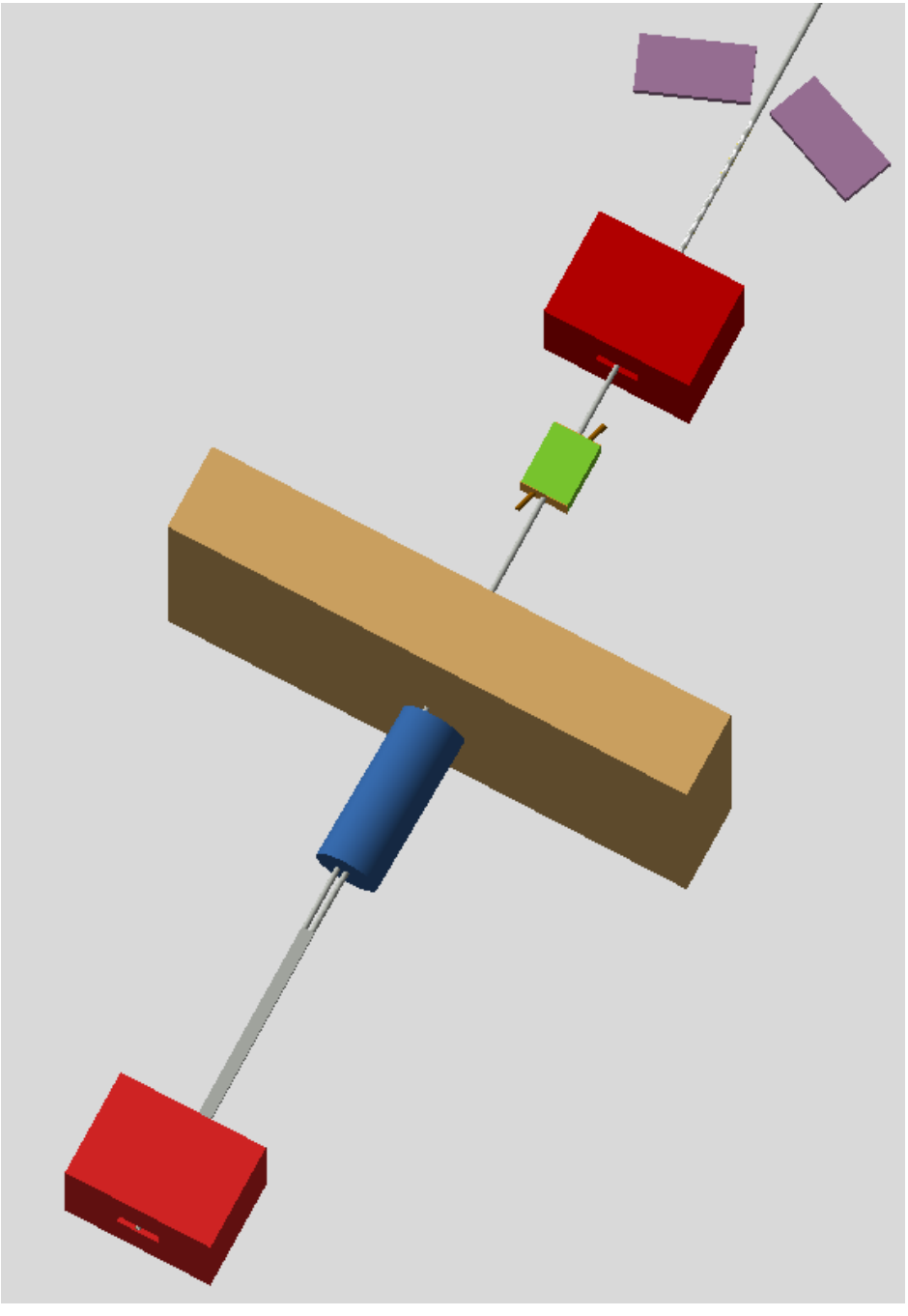
Oleksandr Borysov

LUXE Meeting
June 17, 2019

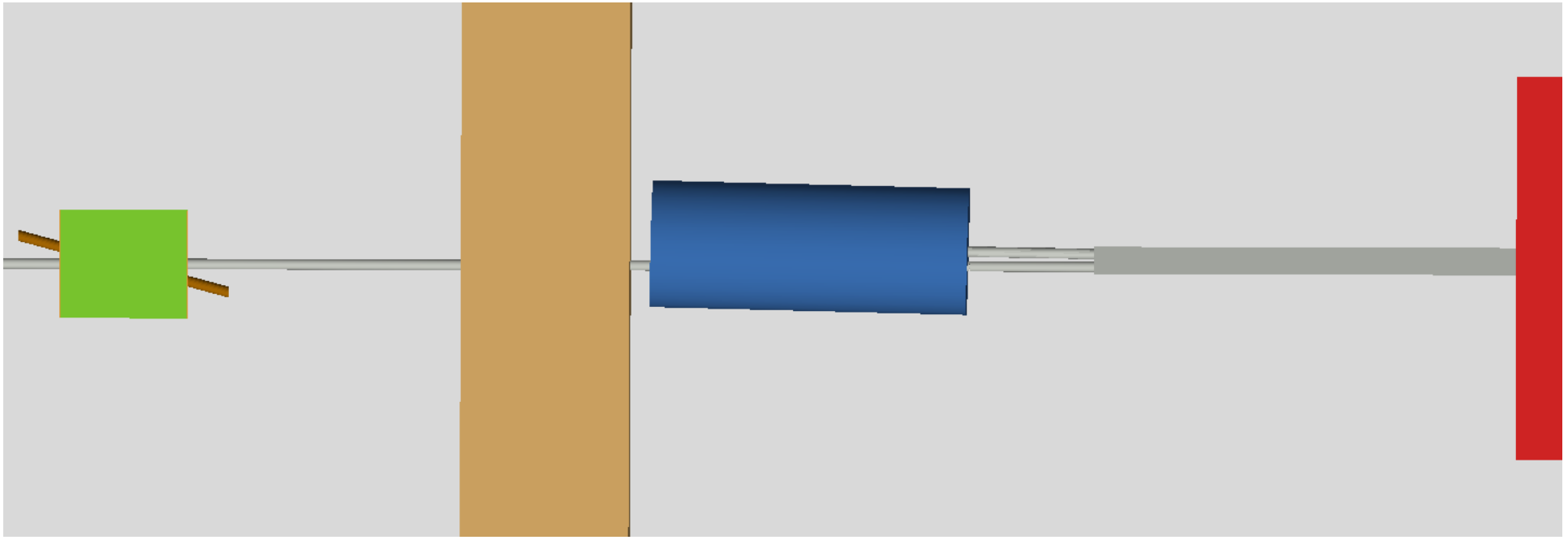


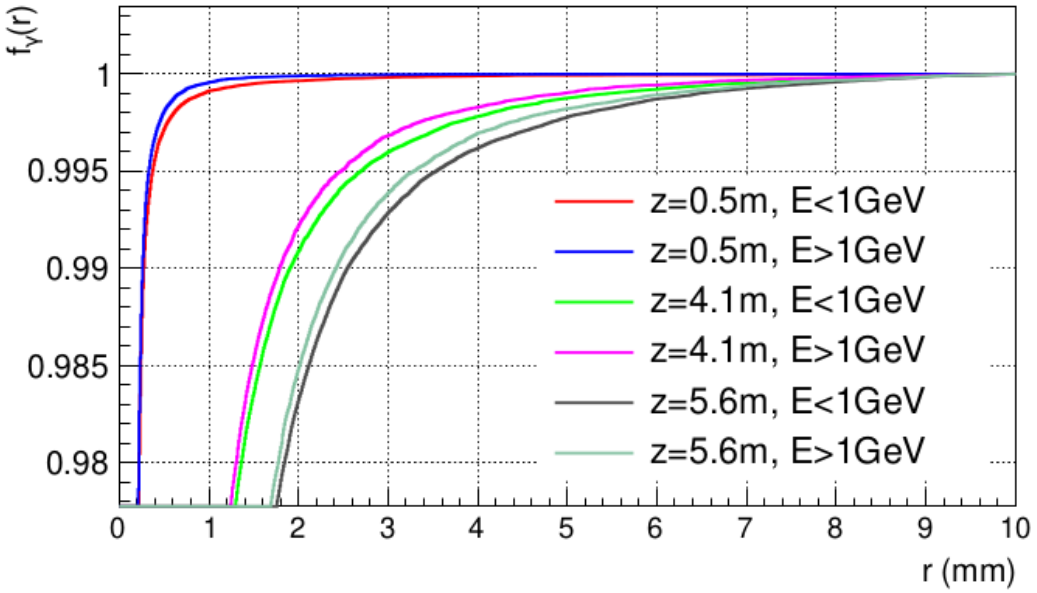
Sketch and Geant4

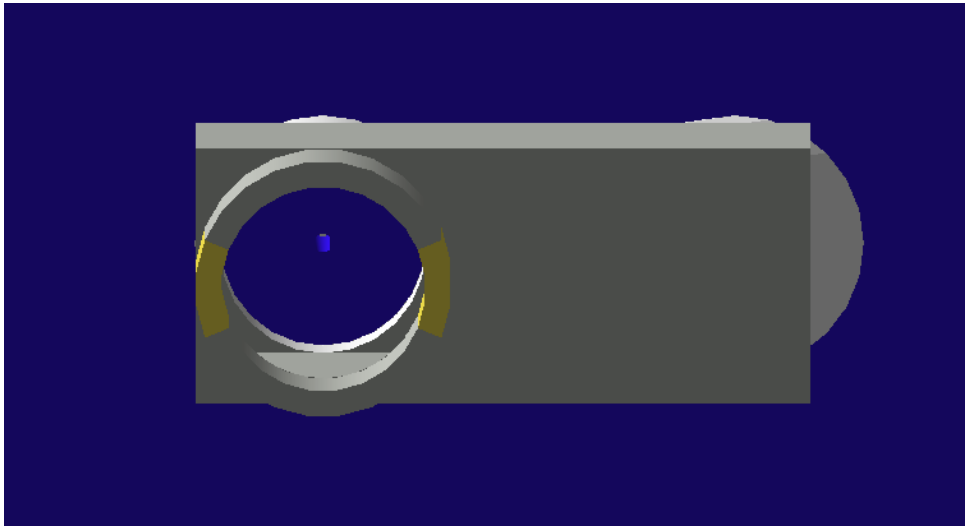




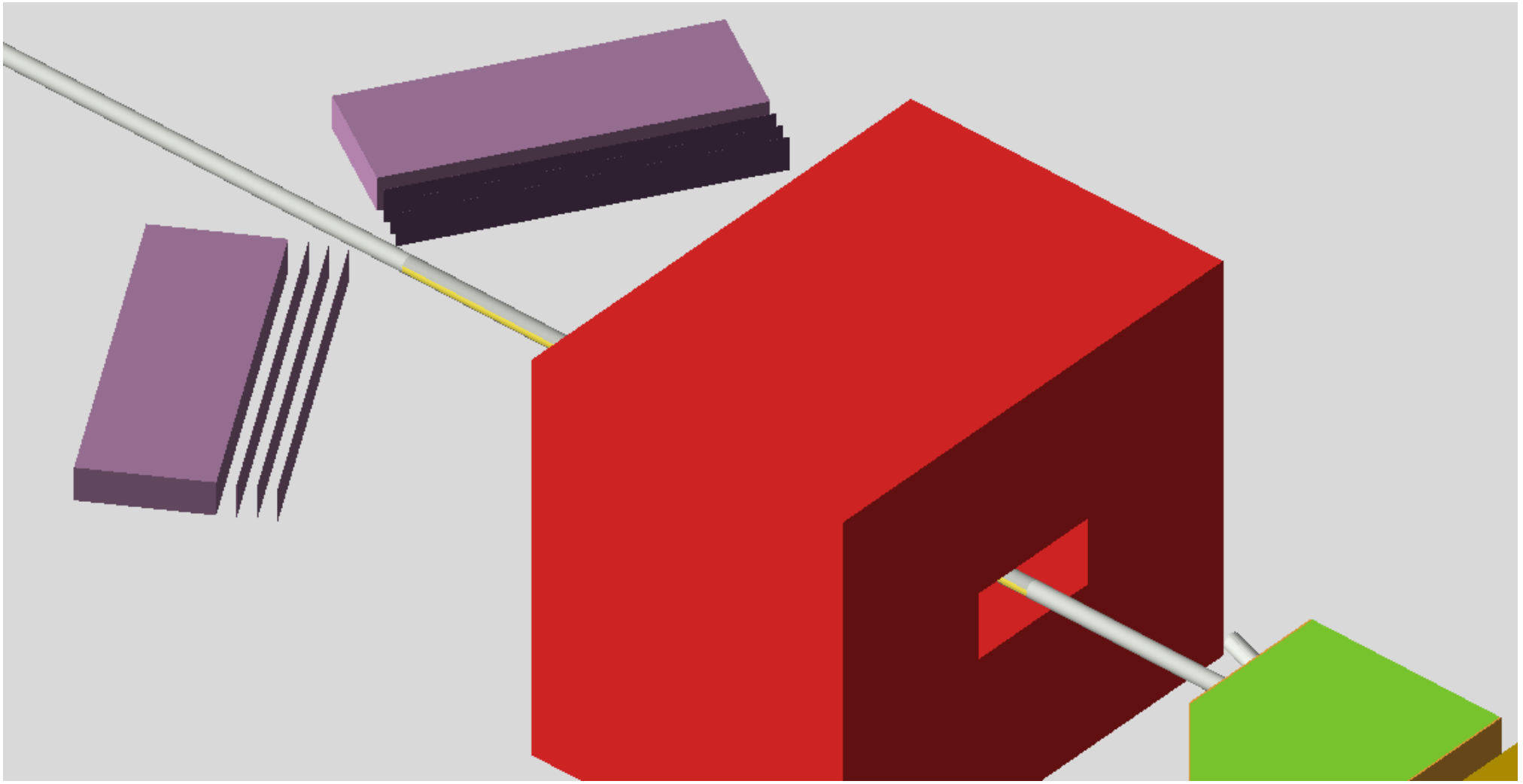
Beam Dump with Hole for Photons







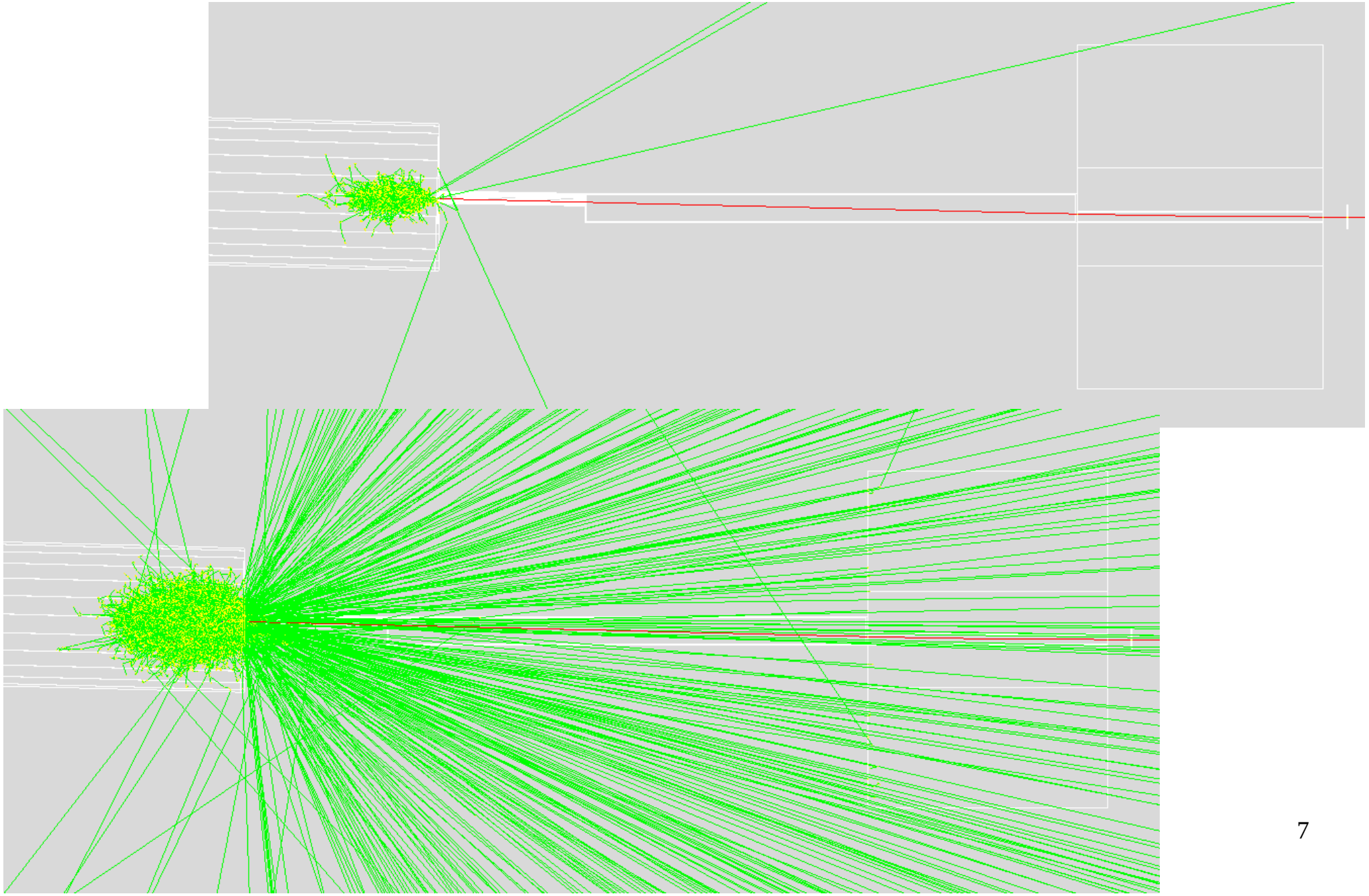
Tracking Planes



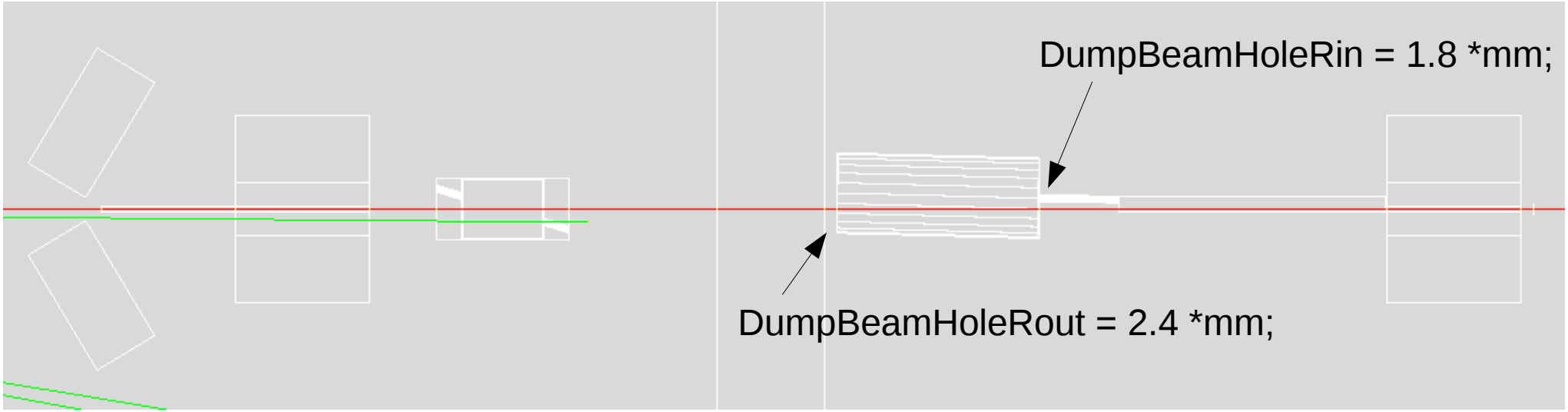
Geometry Check

userDetector->Construct() start.
Checking overlaps for volume IPBoxXY ... OK!
Checking overlaps for volume logicIPFrontB ... OK!
Checking overlaps for volume logicIPFrontF ... OK!
Checking overlaps for volume IPBoxVac ... OK!
Checking overlaps for volume ElectronPipe ... OK!
Checking overlaps for volume ElectronPipe ... OK!
Checking overlaps for volume ElectronPipeVac ... OK!
Checking overlaps for volume ElectronPipeVac ... OK!
Checking overlaps for volume LaserPipe ... OK!
Checking overlaps for volume LaserPipe ... OK!
Checking overlaps for volume LaserPipeVac ... OK!
Checking overlaps for volume LaserPipeVac ... OK!
Checking overlaps for volume IPBox ... OK!
Checking overlaps for volume DMBoxXY ... OK!
Checking overlaps for volume DMBPipe ... OK!
Checking overlaps for volume DMBPipe ... OK!
Checking overlaps for volume DMBPipeWindow ... OK!
Checking overlaps for volume DMBPipeWindow ... OK!
Checking overlaps for volume DMBPipeVac ... OK!
Checking overlaps for volume DumpMagnet ... OK!
Checking overlaps for volume BeamDump ... OK!
Checking overlaps for volume DumpBeamPipeIn ... OK!
Checking overlaps for volume DumpBeamPipeOut ... OK!
Checking overlaps for volume DumpBeamPipe ... OK!
Checking overlaps for volume BeamDumpAssembly ... OK!
Checking overlaps for volume Shilding ... OK!
Checking overlaps for volume ShildingBipe ... OK!
Checking overlaps for volume ShildingPipeVac ... OK!
Checking overlaps for volume ShildingAssembly ... OK!
Checking overlaps for volume BeamSplit ... OK!
Checking overlaps for volume BeamSplitContainer ... OK!
Checking overlaps for volume BeamPipeMB ... OK!
Checking overlaps for volume BeamPipeMBVac ... OK!
Checking overlaps for volume BeamPipeMD ... OK!
Checking overlaps for volume BeamPipeMDVac ... OK!
Checking overlaps for volume BeamPipeSIP ... OK!
Checking overlaps for volume BeamPipeSIPVac ... OK!
Checking overlaps for volume BeamPipeSD ... OK!
Checking overlaps for volume BeamPipeSDVac ... OK!
Checking overlaps for volume BeamPipeIPM ... OK!
Checking overlaps for volume BeamPipeIPMVac ... OK!
Checking overlaps for volume IPMBoxXY ... OK!
Checking overlaps for volume IPMBPipe ... OK!
Checking overlaps for volume IPMBPipe ... OK!
Checking overlaps for volume logicIPMBPipeWindow ... OK!
Checking overlaps for volume logicIPMBPipeWindow ... OK!
Checking overlaps for volume IPMBPipeVac ... OK!
Checking overlaps for volume IPMagnet ... OK!
Checking overlaps for volume OpppTracker ... OK!
Checking overlaps for volume OpppTracker ... OK!
Checking overlaps for volume OpppTracker ... OK!
Checking overlaps for volume OpppCalo ... OK!
Checking overlaps for volume OpppDetContainer ... OK!
Checking overlaps for volume OpppDetContainer ... OK!
Checking overlaps for volume BPipeD ... OK!
Checking overlaps for volume BPipeD ... OK!
Checking overlaps for volume BPipeWindowD ... OK!
Checking overlaps for volume BPipeWindowD ... OK!
Checking overlaps for volume BPipeDAssembly ... OK!
Checking overlaps for volume GammaDump ... OK!
Checking overlaps for volume BeamPipeGammaD ... OK!
Checking overlaps for volume BeamPipeGammaDVac ... OK!
Checking overlaps for volume BeamPipeTM ... OK!
Checking overlaps for volume BeamPipeTMVac ... OK!
Checking overlaps for volume BeamPipeInc ... OK!
Checking overlaps for volume BeamPipeIncVac ... OK!

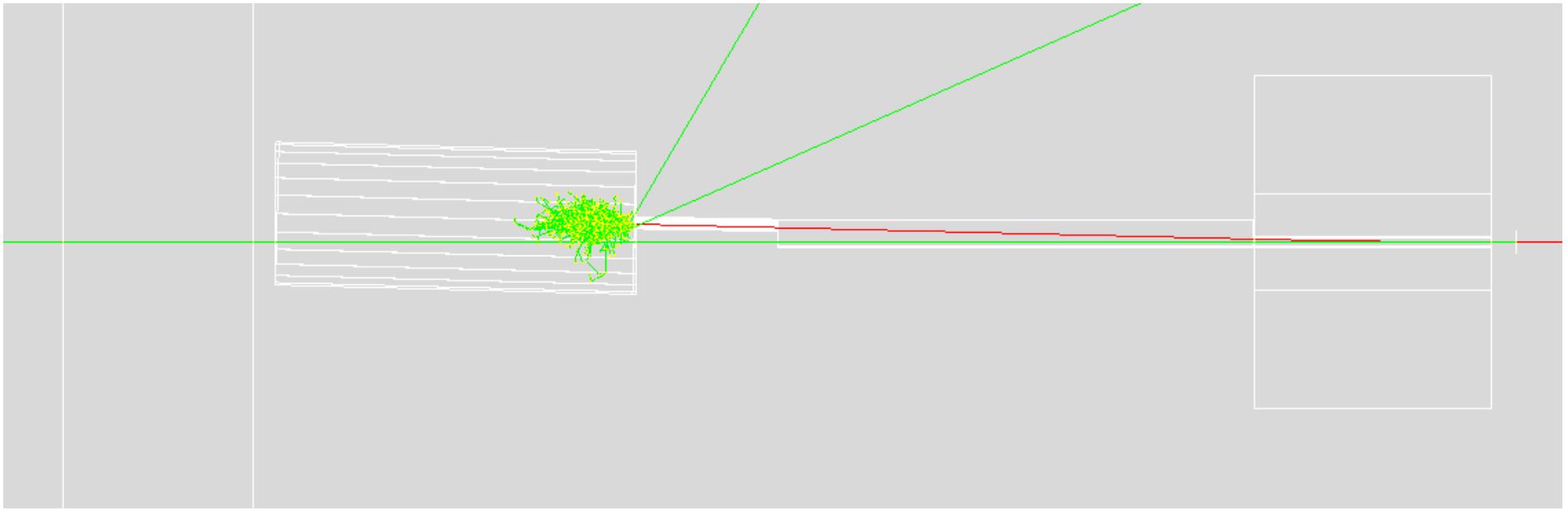
Galactic Target, 1.4 T

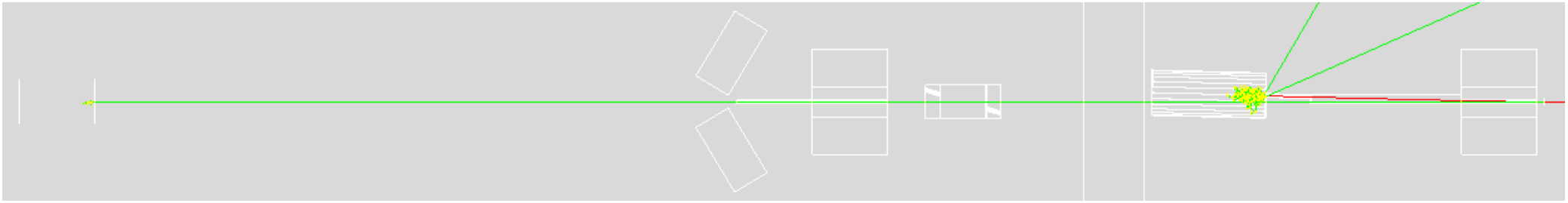


Galactic Target, Magnet off

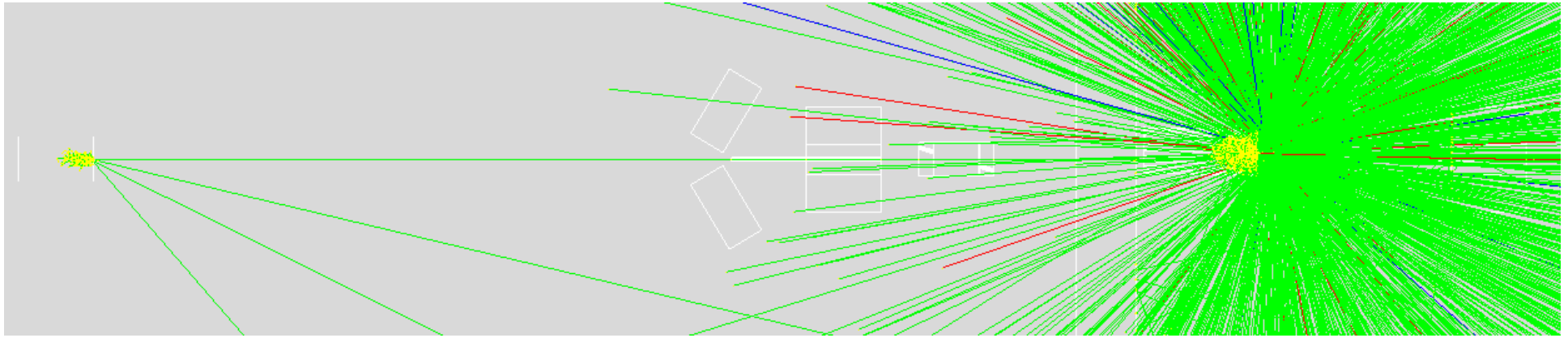


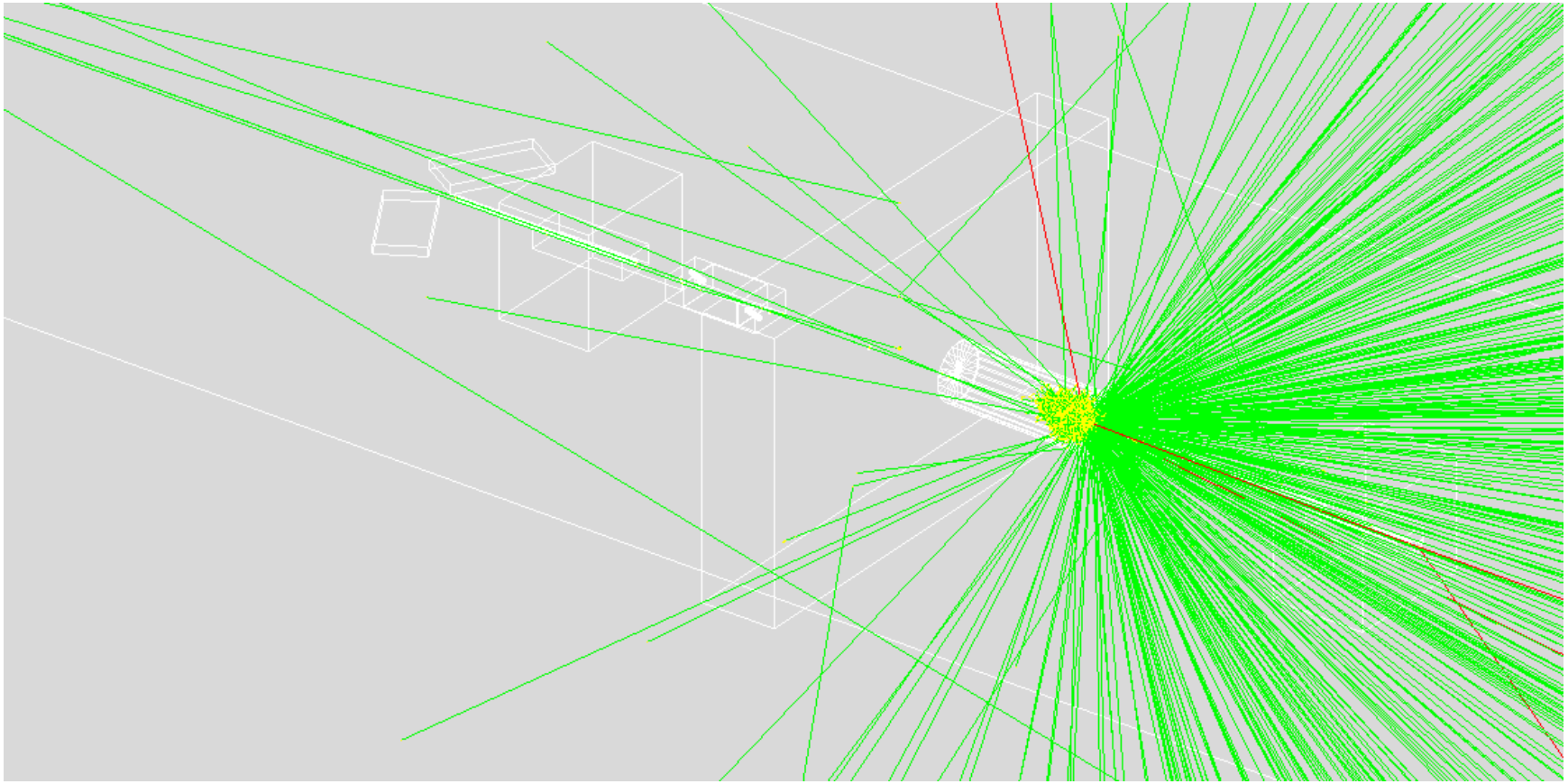
Tungsten Target, 1.4 T





Tungsten Target, 1.4 T, ~30 e-

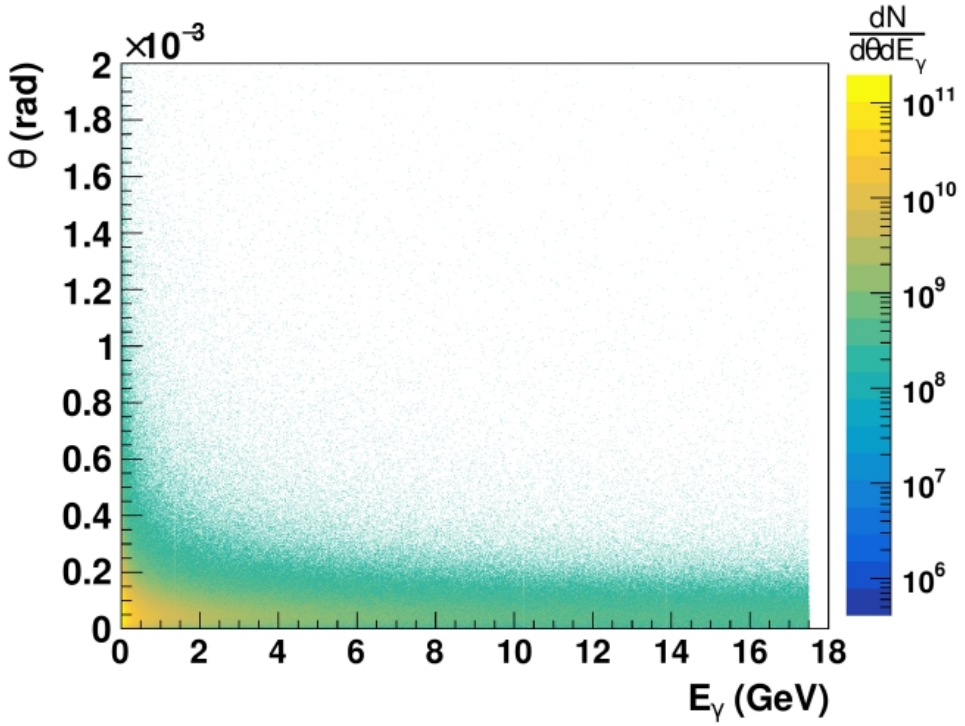


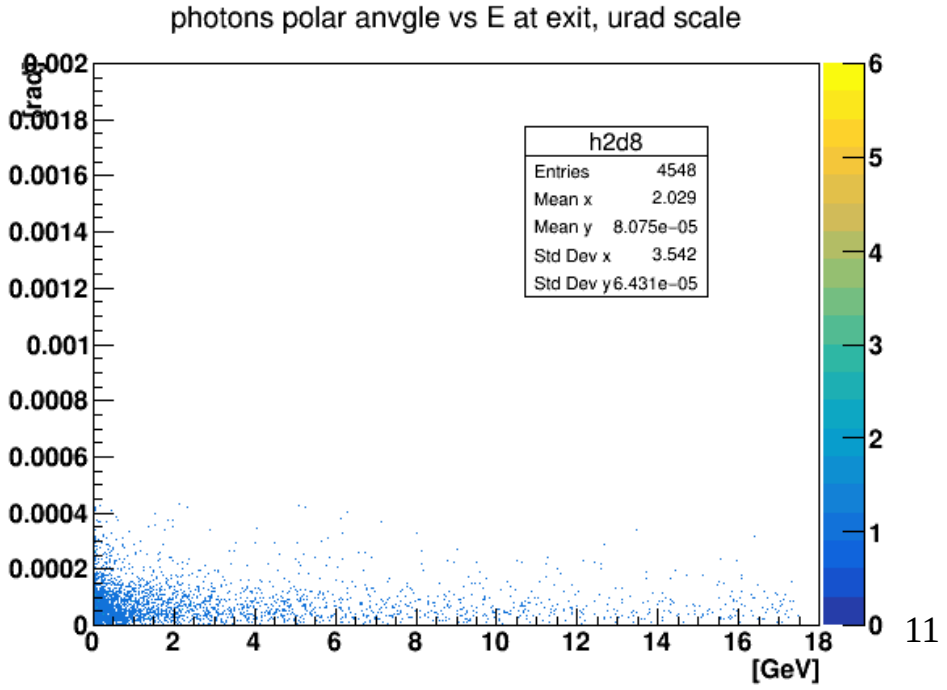


50k e-

Simulated 5k events recording any track that enters detector
1 was registered;

Row	pdg	E	vtxx	vtxy	vtxz	px	py	pz
0	-11	1.1105072	0.6417944	-1.773730	-3752.636	0.4198077	0.0007512	1.0286506





Sketches pdf, png