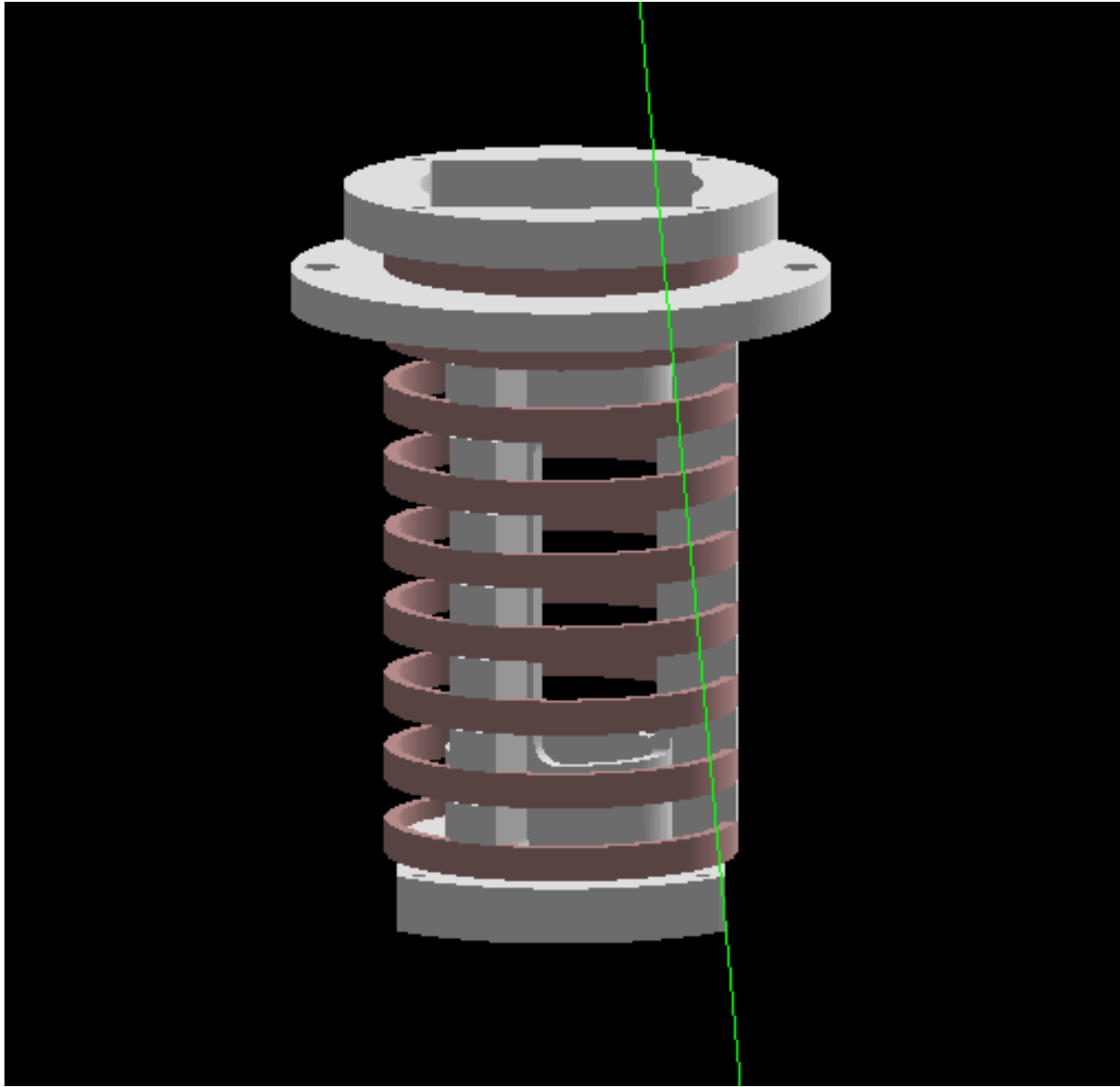


# RED Simulations Status Report

Michael Kuss

- TPC step file from Biagio
- Installed freecad: can read step files, can write PLY files
- Read into G4: CADMesh library PLY → TessellatedMesh
- Use g4ds?
  - Not easy to separate codes: e.g. DSDetectorRED.cc → DSDetectorConstruction.cc
  - Different tasks: g4ds for DM, RED TPC for n->Ar recoil
  - + use the vast infrastructure, e.g. SiPM, PMT
- Standalone code: currently cadmesh\_example (there might be alternatives)
  - + much simpler to understand
  - + Separate from g4ds
  - + Separate repo (CNAF?)
  - Needs 2 external libs (assimp, tetgen)
  - need to start from scratch
  - need to compile against G4 with OpenGL (for visualization)
- What's in?
  - TPC
  - Field shaping rings



# ToDo

surely

- ParticleGun / PhysicsList
- Electric field
- Fused silica vessel
- Vacuum vessel
- SiPM
- Neutron detectors

Other?

- Convert the step into something G4 friendly
- Extraction grid
- Various pipes
- Put code into repo