Simple Geometry

DIA 2.200000m
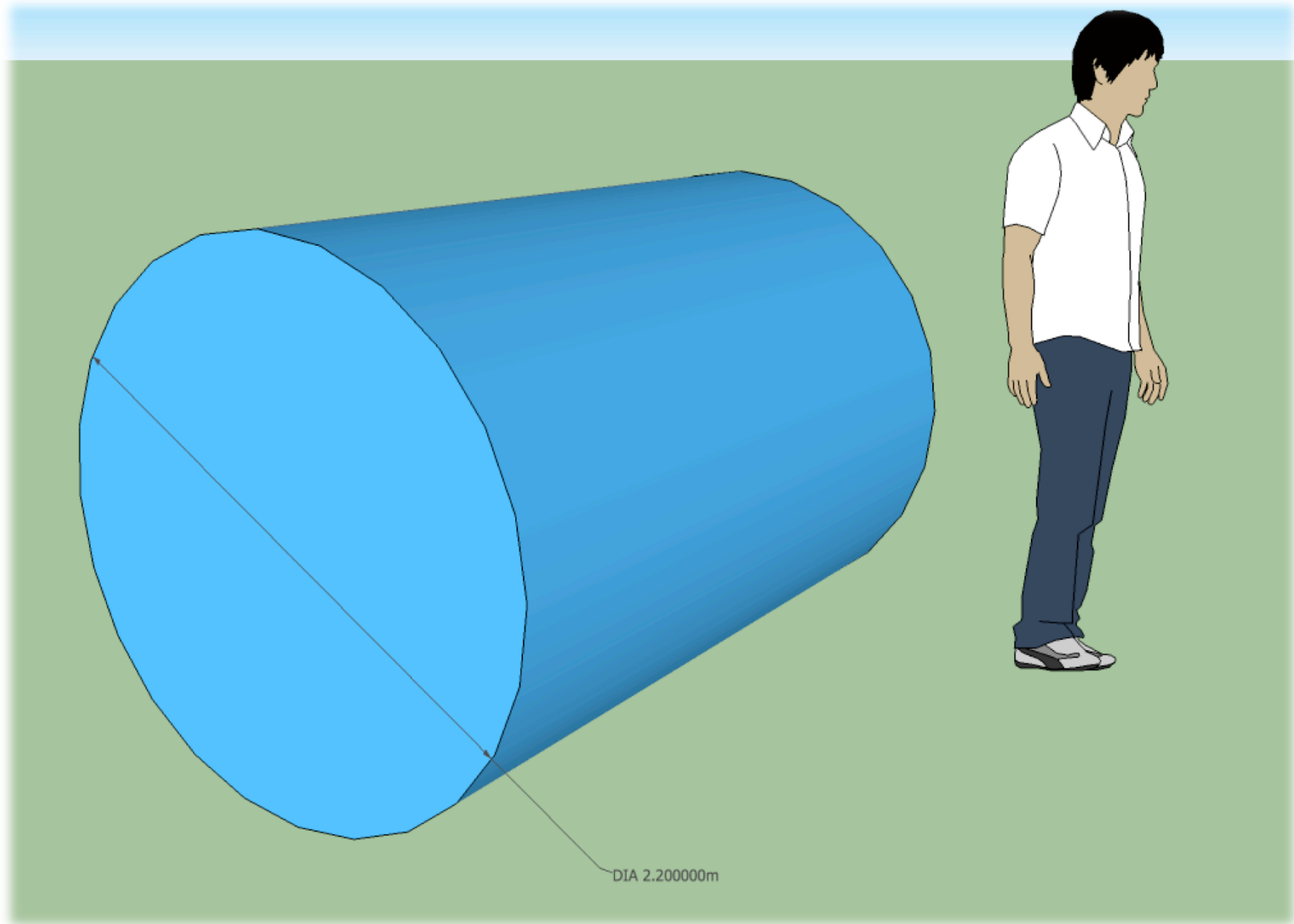
Materials & Dimensions

- 1.1 m radius cylinder with 3.2 m length
- water, Fe, Pb, C, CH_2, NaCl, $CaCO_3$
- density 1 g/cm^3, for water, standardized for others and will be placed in table on AARM wiki.
- Energies 280 GeV, 10 GeV, 30 GeV, 100 GeV, 1 TeV
- μ^-, μ^+

Physics Lists & Geant4 Versions

- Initially Geant4.9.3 used without Shielding list or μ-Nuclear
- Next Move on to Geant4.9.3 with Shielding and μ-Nuclear included (Dennis Wright port)
- Next use Geant4.9.4 with μ-Nuclear

Fiducialization & Counting

- For water inner 1.0 m radius and 1.2 m length sensitive det.
- All particle interactions are tracked and every track is retained
- The above requires 14 Gb per 10,000 primaries in plain text
- 10,000 primaries run in 111 minutes on a single dual-core processor
- Should probably find a way to reduce the retained data one way is to throw away most of the μ hits in the sensitive detector since they basically go straight
- The full tracking should allow (with some carefully made algorithms) to avoid the "double counting" issue which has been mentioned