

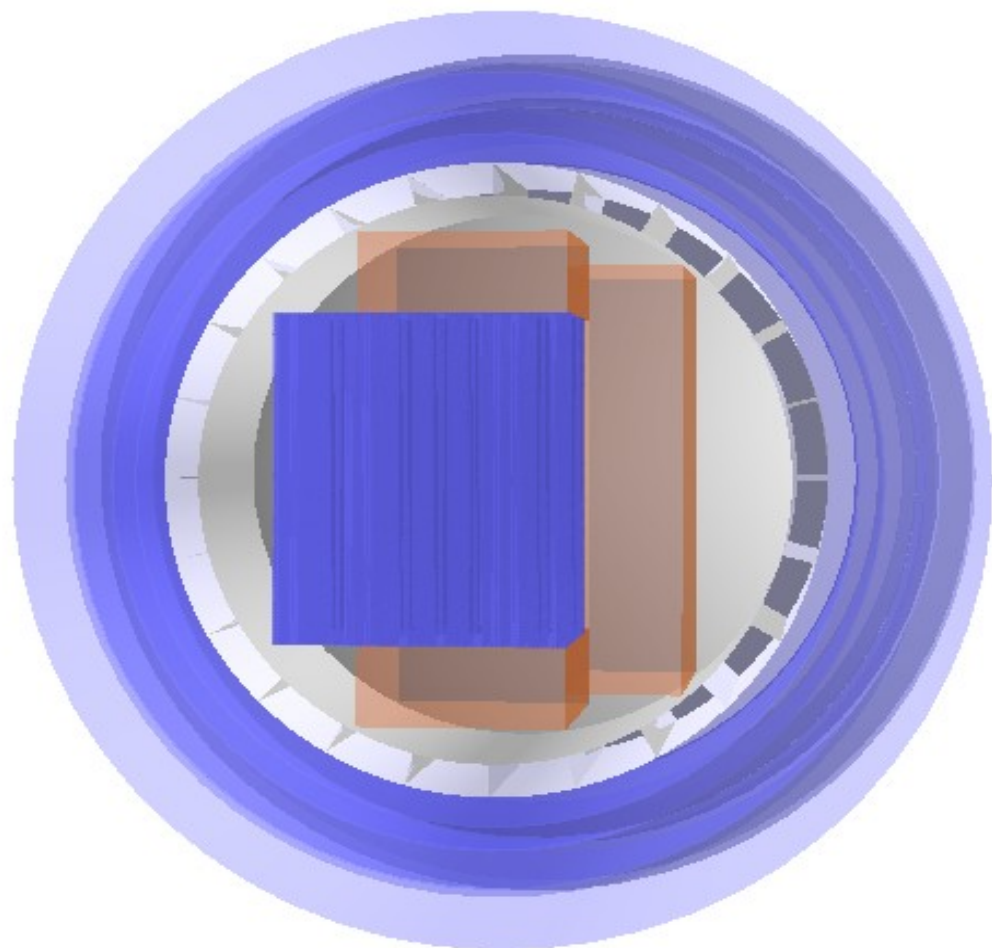
Event rate in TPC



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Geometry

- 3DST : $2.4 \times 2.4 \times 2$
- TPC
 - top and bottom:
 $328 \times 57 \times 141$ cm
 - downstream:
 $328 \times 300 \times 77$ cm
- With B-field



Event rate calculation

- A thousand spills have been generated and we aim at a TPC event rate per spill.
- Almost all the neutrino interactions happen in the KLOE, ECAL and 3DST, not TPC itself.
- Both the muon track and any hadronic energy deposit are considered.
- 0 threshold is assumed for TPC.

Event rate

- 1,000 spills (10 us each spill duration)
- Total number of events in whole SAND: 92936
- Only muon:
- Muon in any of the three TPCs: 7361
- Downstream TPC only: 4018
- Top TPC only: 660
- Bottom TPC only: 842
- More than 1 TPCs: 1841
- Muon + hadrons:
- Whatever fired in any of the three TPCs: 10721
- Downstream TPC only: 4754
- Top TPC only: 1030
- Bottom TPC only: 1222
- More than 1 TPCs: 3715

Summary

- downstream TPC: ~ 7 events / 10 us (1 spill)
- top TPC and bottom TPC : ~ 1.5 events / 10 us (1 spill)
- Sara and Pierre are looking at the files and trying to extract channel level information.