# GEANT4 Simulation of background radiation study for APEX
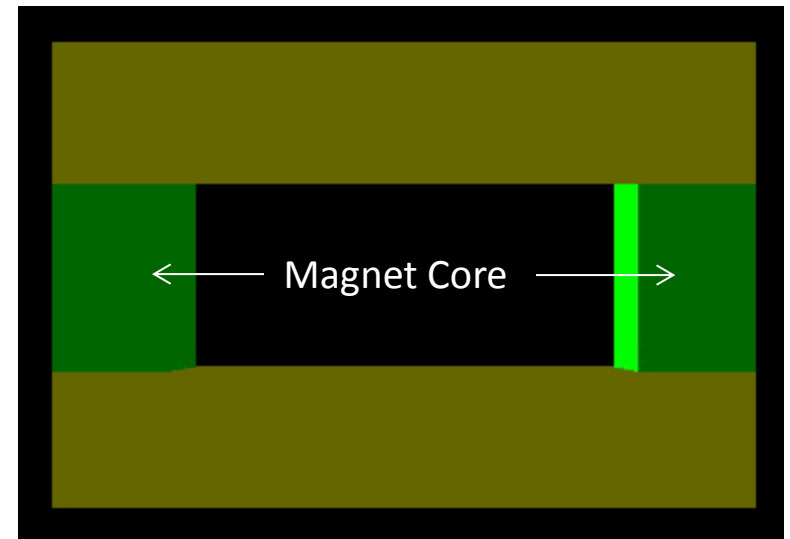
Task

- Description of septa magnet in G4: done
- Introduce magnetic field: in progress
- Description of Hall A in G4: in progress
- Design of the radiation detector.
- Generic background simulation.
- Optimization of the beam line.
- Description of HRS power units shielding.
- Study/Optimization of shielding.
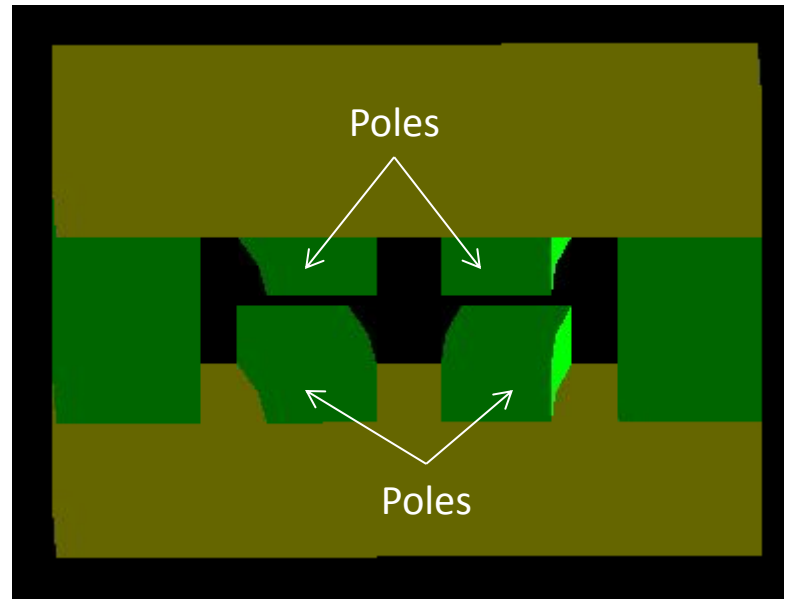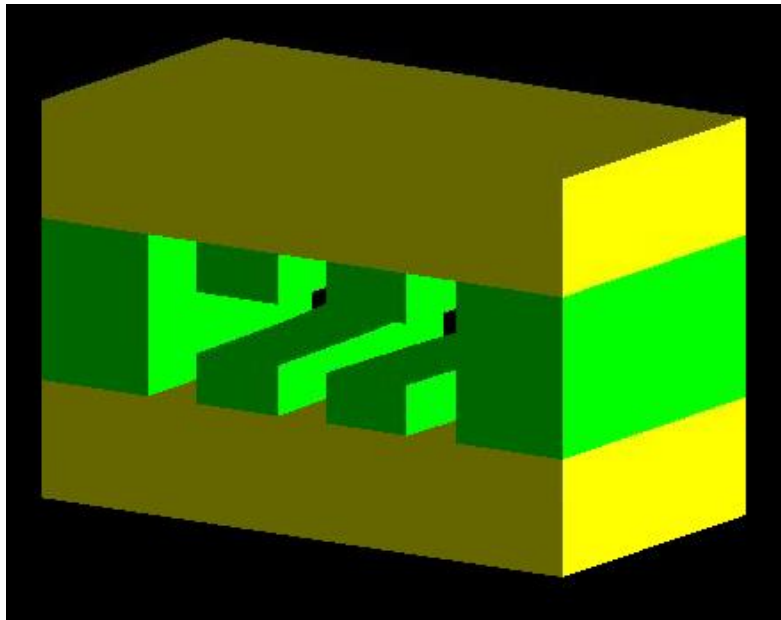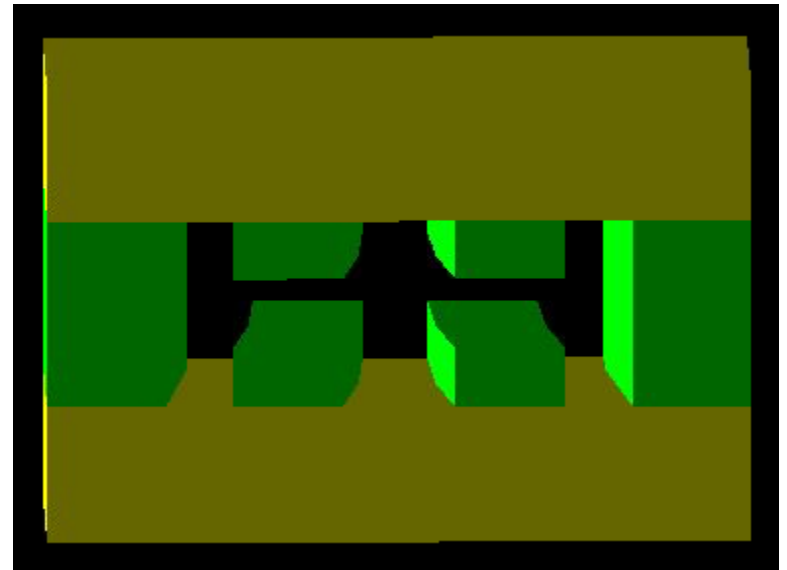
Yoke and Magnet Core

Upper Yoke

Lower Yoke

Back

Magnet Core
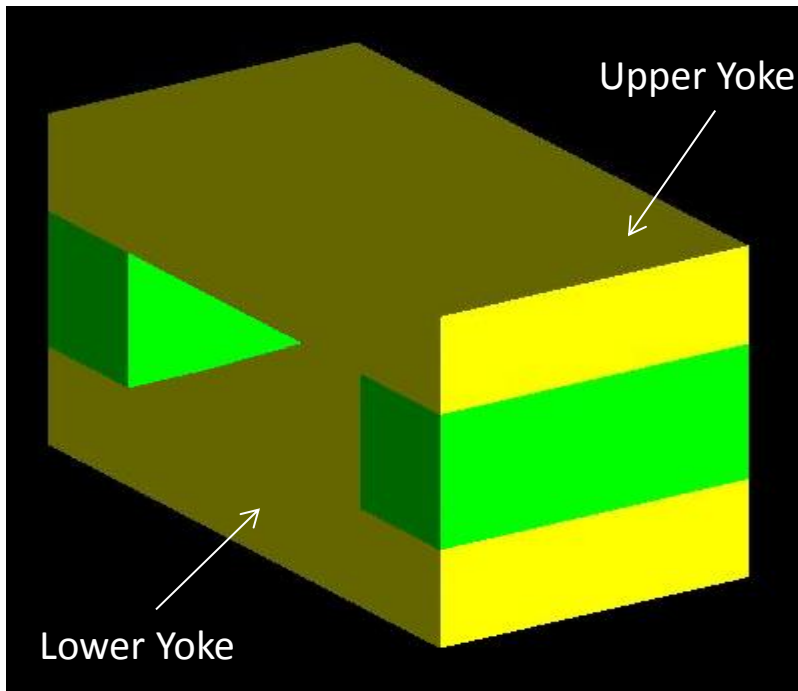
Front

Insert Poles

Poles

Poles

Back

Front

Insert Large Coils

Large Coils

Large Coils
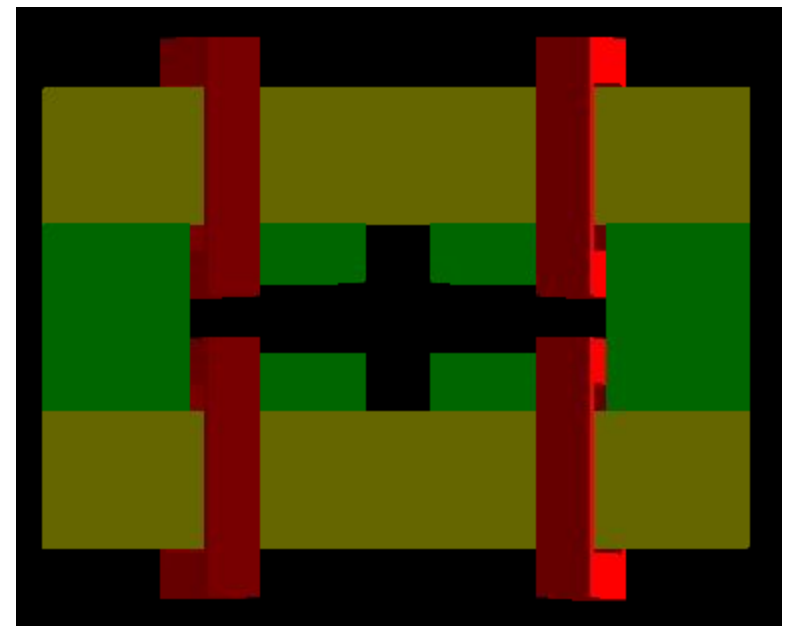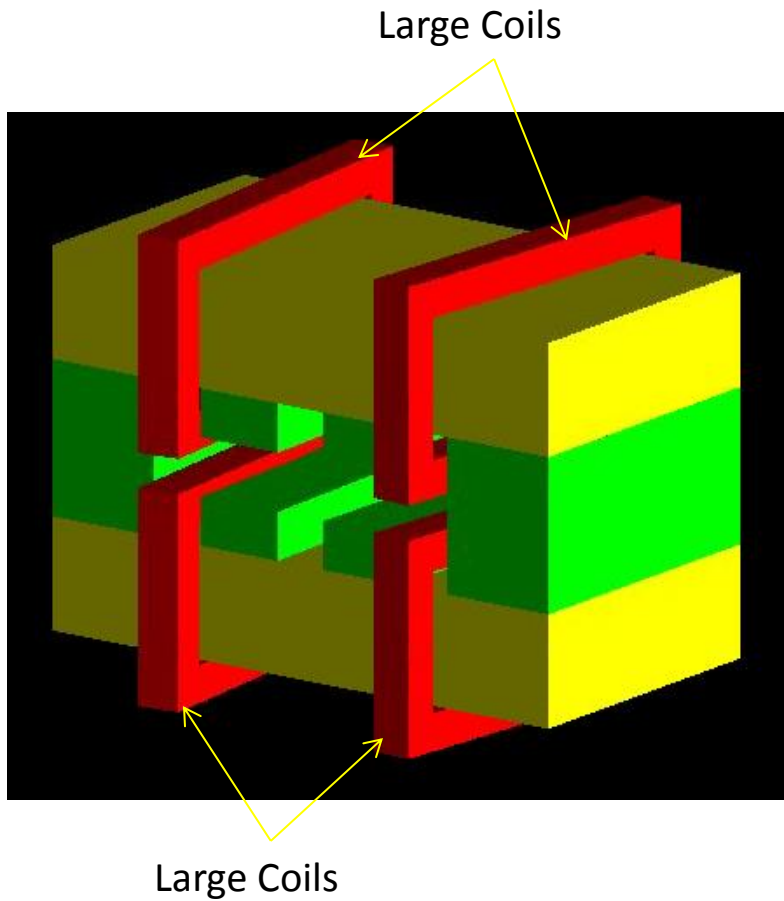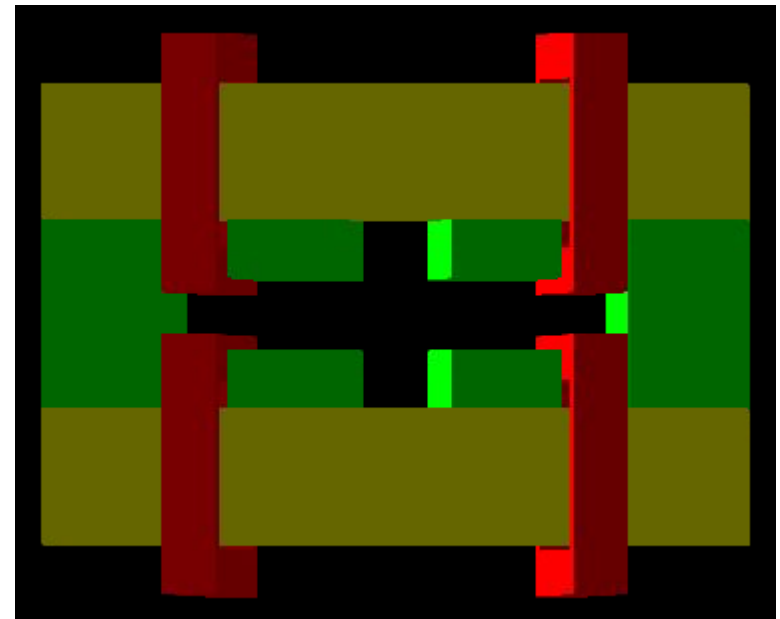
Back

Front

Insert Small Coils

Small Coils

Small Coils
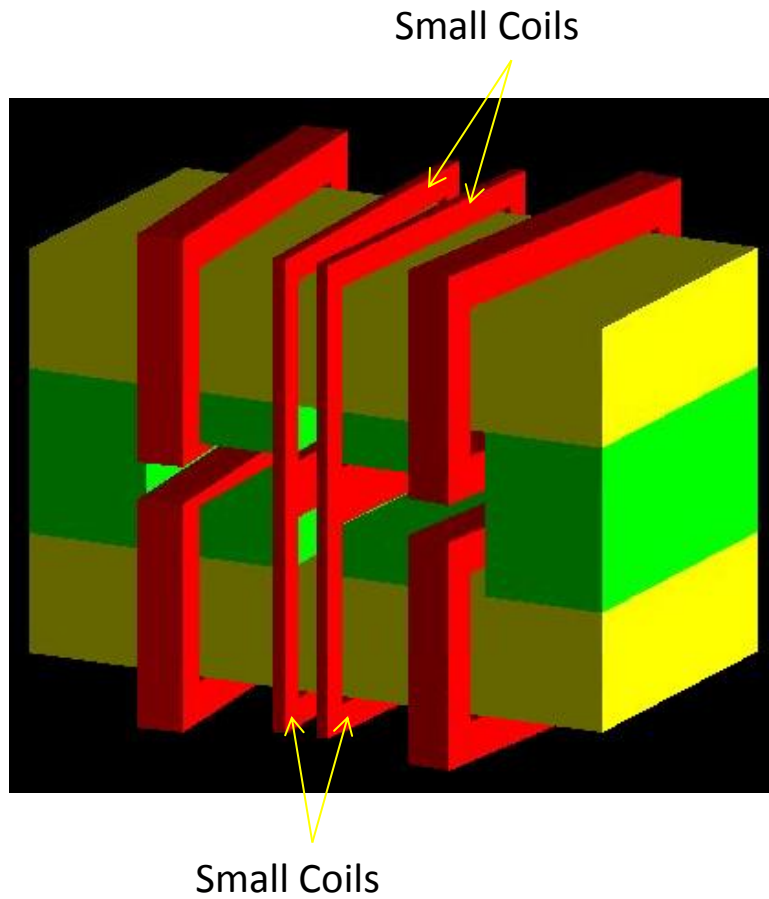
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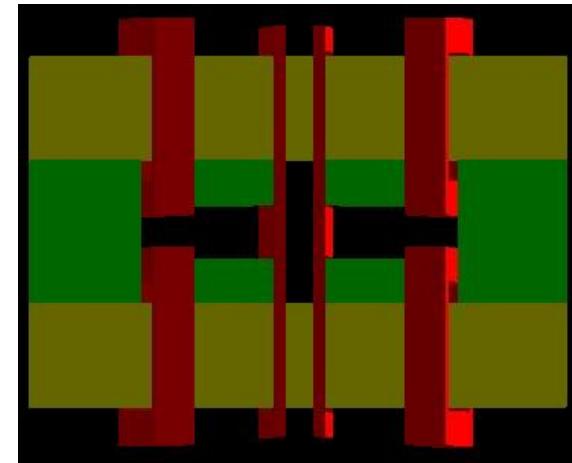
Front
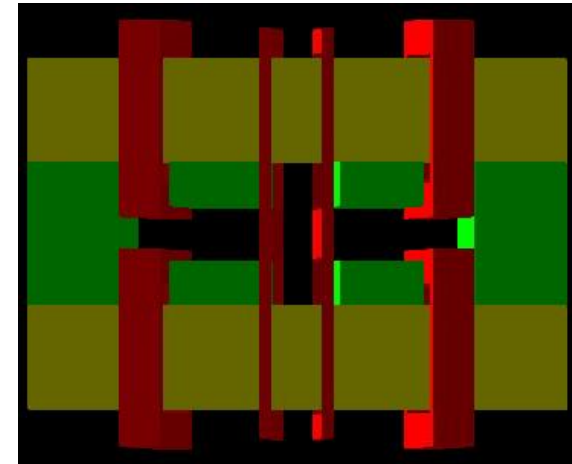
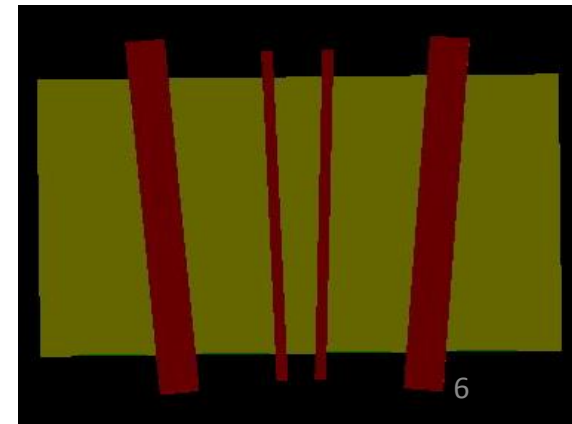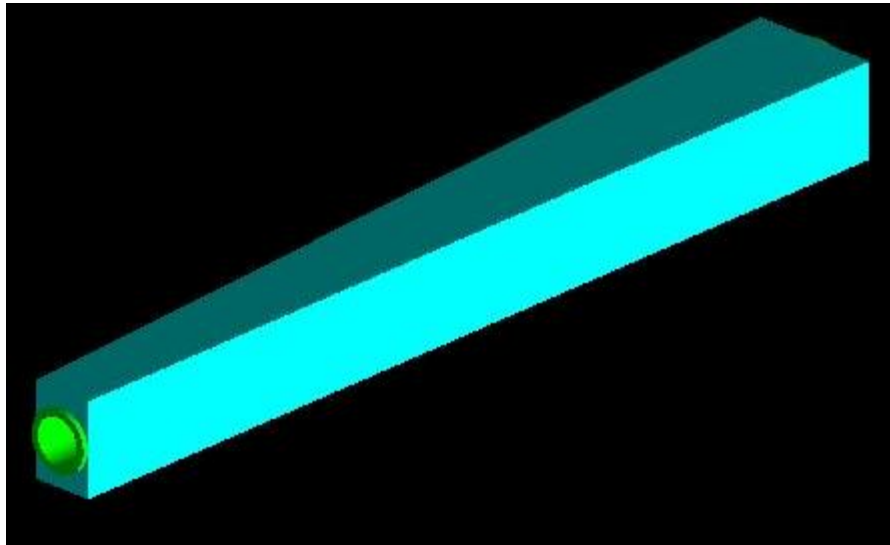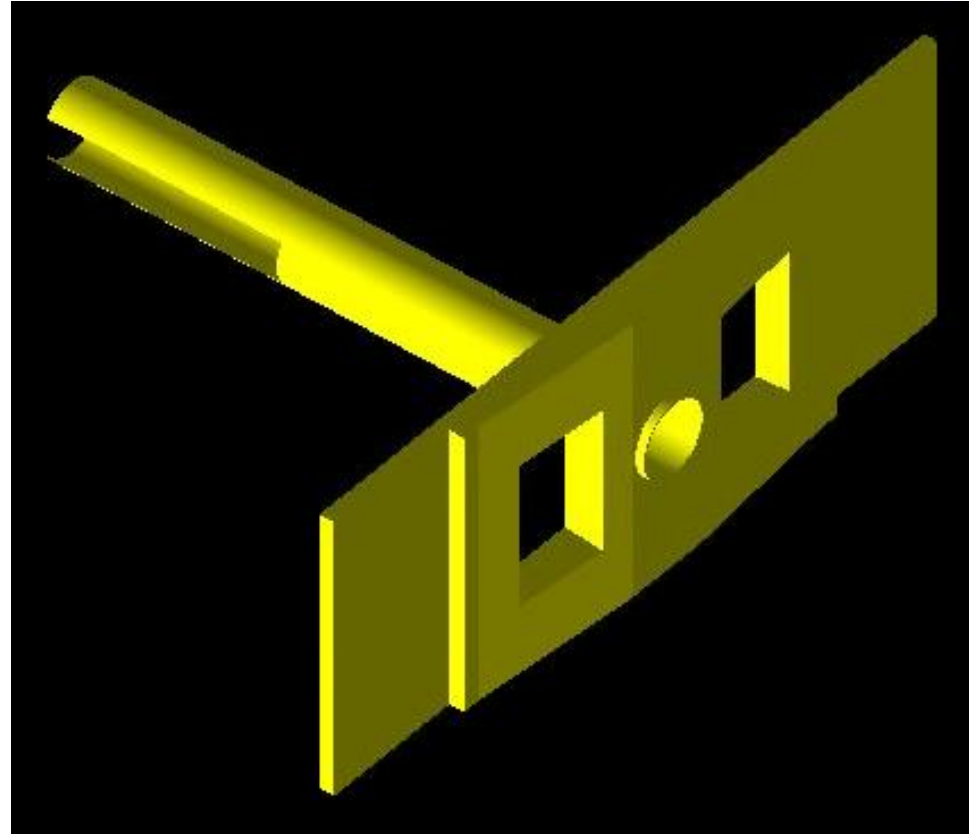**Top**

Parts of the beam line

Beam Tube with Shielding

Exit box flange with cut tube

Timeline

- Work started on September 30, 2014

- Described Project could be completed by 2/15

- Experimental test of shielding could be done during spring beam delivery.

Thank you Bogdan, Sergey, Seamus, Andrew, Vladimir and Gordon for their support.