DETECTOR STUDIES

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Detector Parametrisation

- To easily change and visualize detector geometry- such as quartz tilt angle, light guide tilt angle etc.
  - Parametrise positions and dimensions of quartz, reflector, light guide and pmt.
  - Parametrise light guide tilt angle.
  - Parametrise quartz tilt angle. 
  - Put in optical properties. 

Background Studies

- Backgrounds on quartz and lightguide using a plane vacuum detector for different particles, generators, rings, quartz & lightguide.
  - Tabulate the rates for the main generators- beam, moller, elastic and inelastic. 
  - Tabulate the deposited power. 
  - Do the previous steps for other new generators added to the simulation- elasticAl, inelsaticAl, quasiElasticAl etc. 

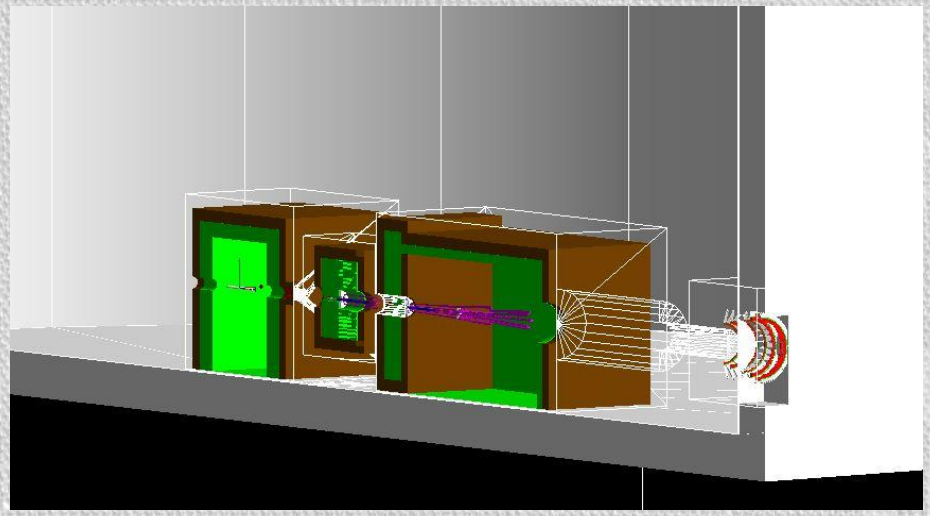
Optical Simulations

- Get and compile Peiqing's old simulation (mollersim) with my geometry.
- Try to reproduce his results with a monoenergetic beam and single quartz piece.

- Try to reproduce results from the Mainz beam test.
- Get the relative response of quartz and lightguide.

Optical Simulations (Continued)

- Write a rootfile generator to read in results at detector plane and run it in the main remoll simulation for realistic energy/angle correlations.



- Optimizing cross-talk between quartz/lightguides. (Just started)
  - How much shower from each quartz tile ends up in other rings and light guides and how this varies as a function of different parameters- separation between rings along beam and radial direction, quartz tile size, tilt angles etc.