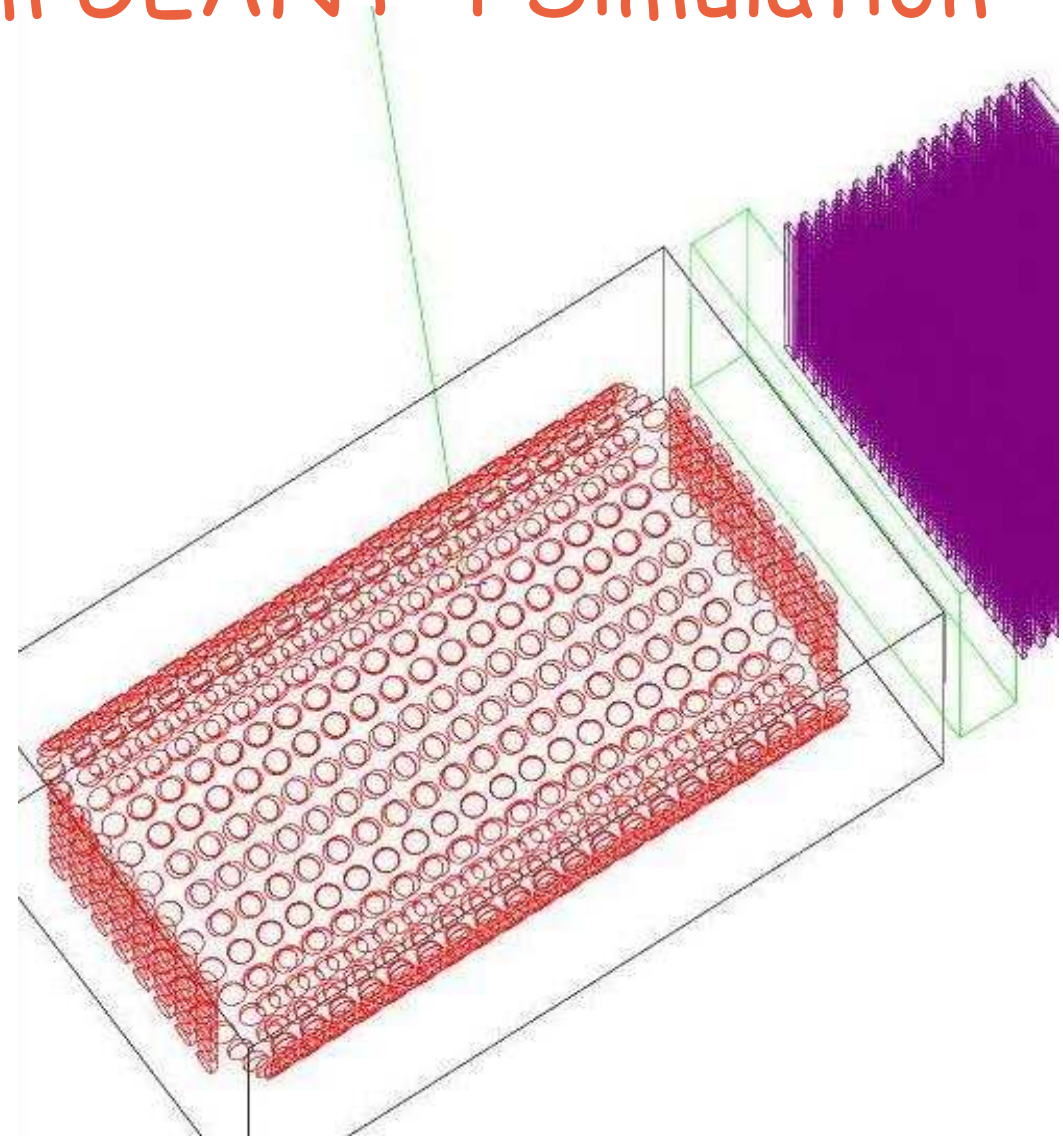
# Status of the 2km GEANT 4 Simulation

- Update since January Meeting
- Status
- Plans/Schedule



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03/01/04

# Since the Jan. Video Meeting

- We have worked hard on the simulation and are ready to start doing physics studies
  - After discussion we decided the best thing to do was to make a version of the GEANT4 simulation that looked like the 1kton and write a program to make ZBS data from the output so we can run the standard K2K reconstruction on it.
  - This will allow us to compare the output of the two simulations and test things like reflectivity/water scattering etc.

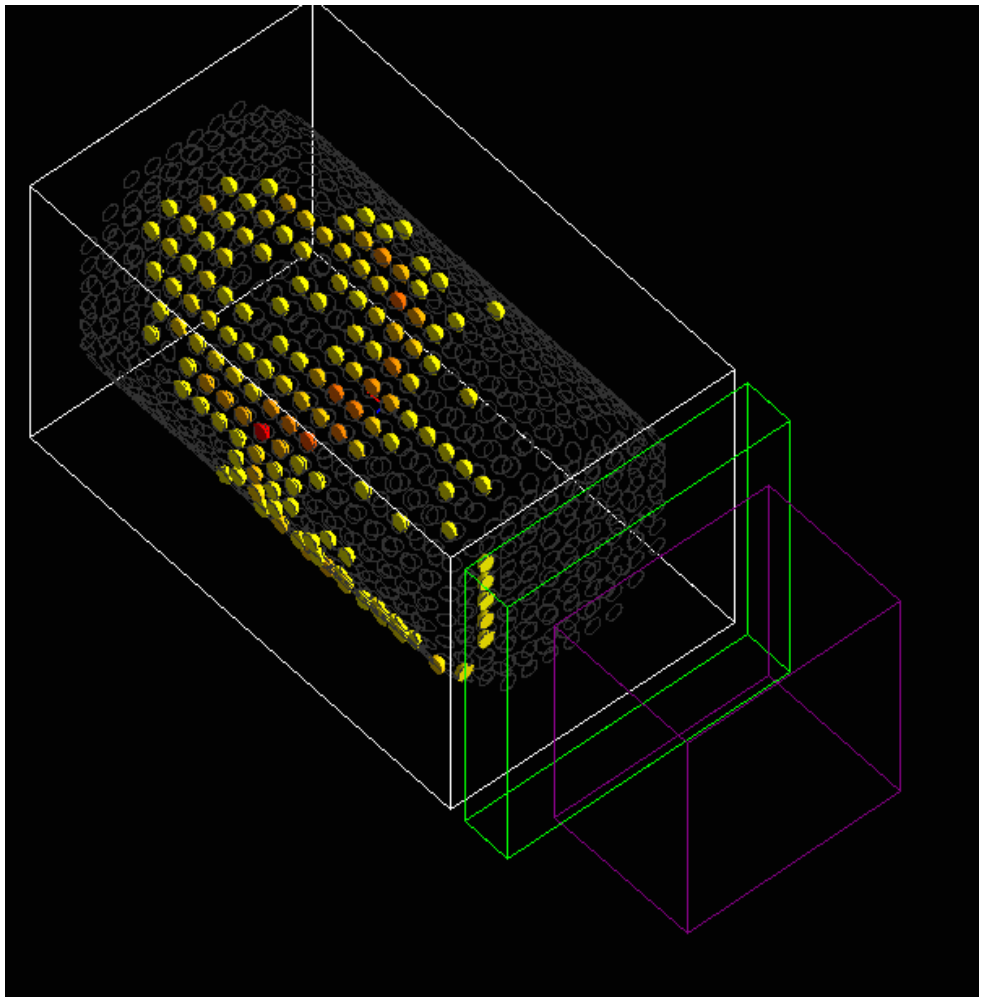
# Some of the changes since last meeting(I):

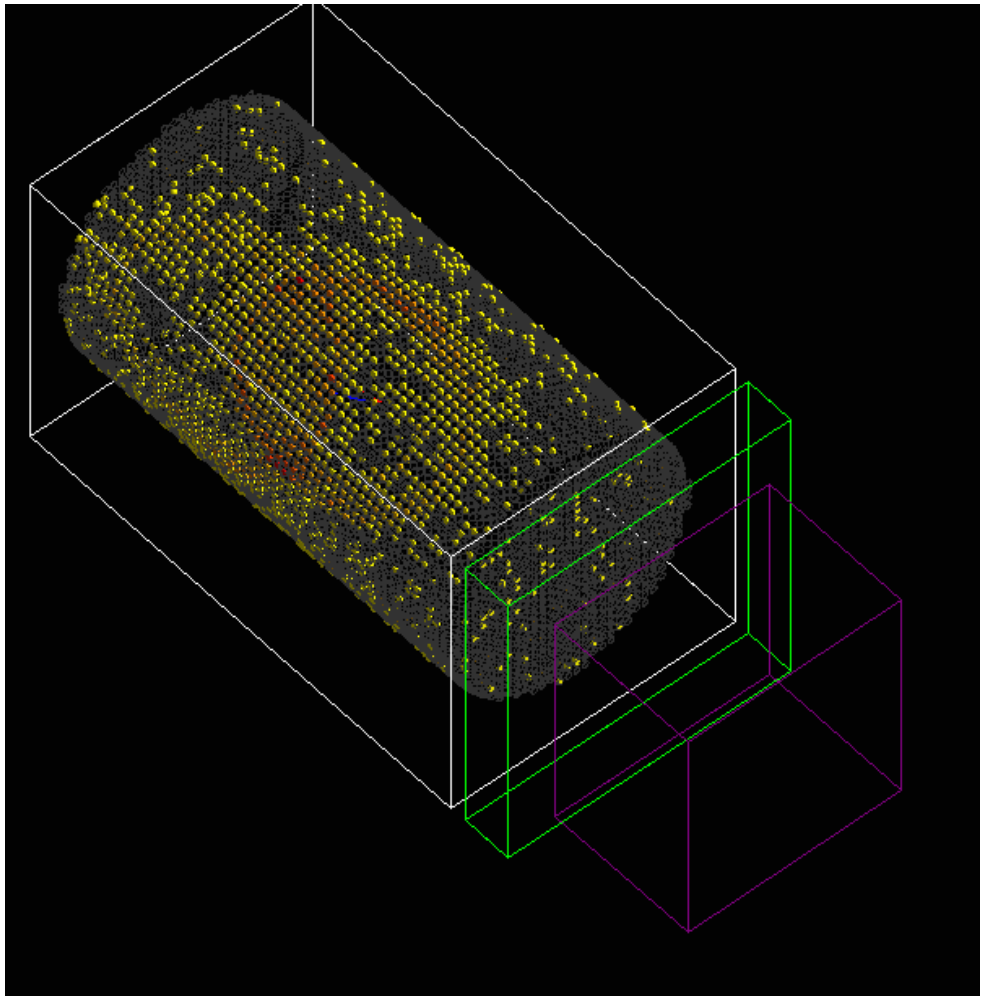
- Chris W. - MC code structure. Hits/Digitization done for WC detector. Multiple tube geometries now changeable from the command line. Wrote recursive geometry routines which assign tube IDs and make the mapping to positions for any geometry setup.
- Ed K.- Completed endcap definitions in WC detector, Added 1kton configuration to the 8" and 20" configurations.
- Mike L. - Rationalized MRD structure and made it more like existing K2K MRD.
- Steven D – More realistic PMTs, added black sheet.
- Steven D./Michael S. – Added tuned water scattering parameters/and material reflection.

# Changes Cont:

- Kate S.- Added Root data structure to write out MC output. Wrote conversion program to write ZBS files with proper bank structure.
- S. Mine – Bug fixes/improvement to polfit and study of polfit to make geometry independent so we can use with ZBS files with non-standard geometry.
- Bob S./Alabama group: Optimizing MRD steel/detector placement/thickness
- Marat/INR group. Now installing software and learning to join the effort.

# PiO with 8" and 20" PMT





# Schedule/Plans

- 1st order WC simulation ready.
- Need to make SK code understand our tube numbers. So we can run 1kton analysis on output to validate the MC.
- 1st we will run with 1kton geometry.
- Then we will change geometry and use polfit(Fortran version for now).