

Hello Christophe Geuzaine

While using Gmsh-2.8.4 on Win-7 64-bit, I observed the following peculiar behavior. I could not find a step by step procedure for creating a mesh from a step file while insuring proper volume grouping; so, I proceeded with the following trial and error. (I included the Step file created with Solidworks and text with Figures in a zip file.)

1) I created an electromagnet inside a volume as shown in Figure 1. Trying not to combine two volumes in the same space, the external volume was a sphere with a void for the internal volumes to reside shown in Figure 2.

2) Finding that Gmsh had trouble recognizing volumes inside a volume, I then cut the volume in half and saved it as a STEP file.

3) Importing the STEP file into Gmsh seemed to work OK and the volumes were labeled correctly. (Air=1, Winding=2, Core=3)

4) After selecting and completing 3D Mesh, It still looked Good as shown in Figure 5.

5) I then saved the mesh file and reopened it in the GUI to find that the volume marker 3 had relocated to the center of the Winding and was thus residing in Volume 2 though the volume 3 identity was revealed if the mouse arrow hovered over the volume marker.

**Is this normal?**

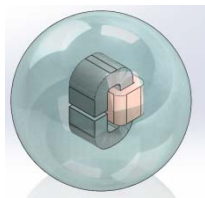


Figure 1

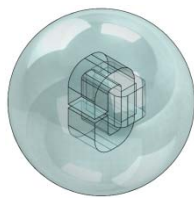


Figure 2

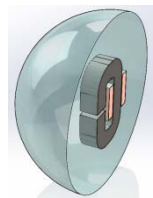


Figure 3

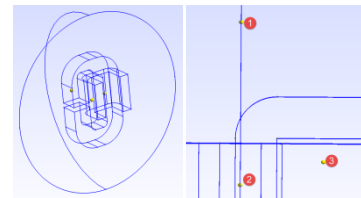


Figure 4

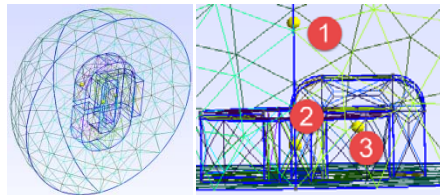


Figure 5

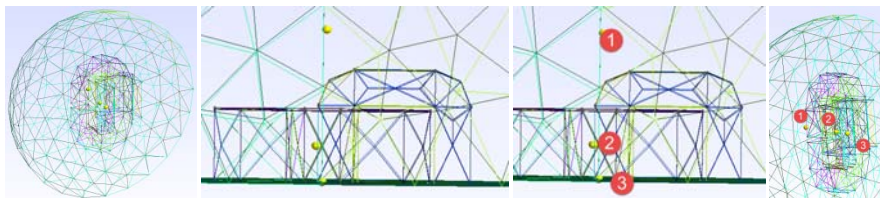


Figure 6