Extraction of Electrode Elements from Neutral Format File exported by Net Gen for Electrodes

Step 1:

From NetGen menu, select

Mesh->Edit Boundary Conditions

And specify the boundary condition number of each face. For each electrode surface assign distinct boundary condition number. For 16 electrodes, assign boundary condition number from 1 to 16. Same goes for 32 electrodes. Make sure that boundary condition number for every other surface element is 0.

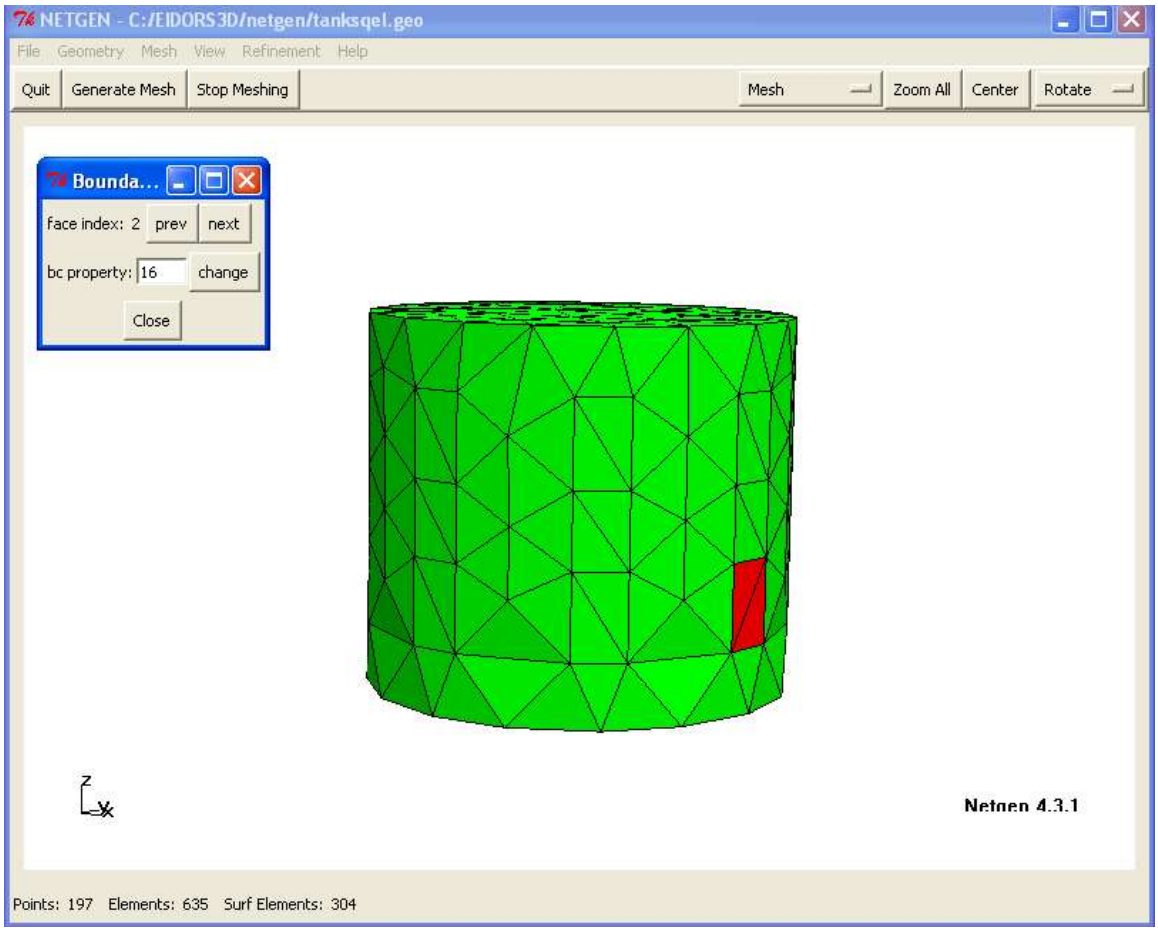

Fig 1: Specifying the boundary condition numbers on Net Gen model

Step 2:

Export the file in neutral format.

File-> Export Filetype -> Neutral Format

Step 3:
Now export the file
File-> Export Mesh
Save file as tanksqel.msh

Step 4:
Use readngneutral.m file to import the mesh in the matlab.
[vtx,simp,surf] = readngneutral(filename);
The surf matrix contains the surface elements.

Step 5:
Use extractElectrodesIndices.m file to extract the electrode elements
elec = extractElectrodesIndices(number_of_electrodes,surf)

At the end of this work flow, we have four matrices

vtx (Specifies the vertices)
simp (Specifies the simplices)
surf (Specifies the surface elements)
elec (Specifies the electrode elements)