Example 1: peridynamics mesh

Objective: Transform a FEM mesh to peridynamic mesh.

Filename: none

Description:

Generates a 3D solid finite element mesh and transfer it to discontinuous mesh used by peridynamics.
You are expected to do the following studies by ***lspp43***:

1.Open Ls-prepost. Click ***Element and Mesh->Shape mesher*** at the right of the screen.
2.Input coordinates for the plate: X 0.0, 25.0;Y:0.0, 5.0; Z:-0.05, 0.05. Vx:20;Vy:4;Vz:1. Then click ***Create*** and ***Done***.
3.Click ***Element Tool ->Detach*** at the right of the screen. Click **Node** in the option form. In the **Sel** form, select **Area**. Select the whole mesh by mouse. Then click **Detach** in the detach form.

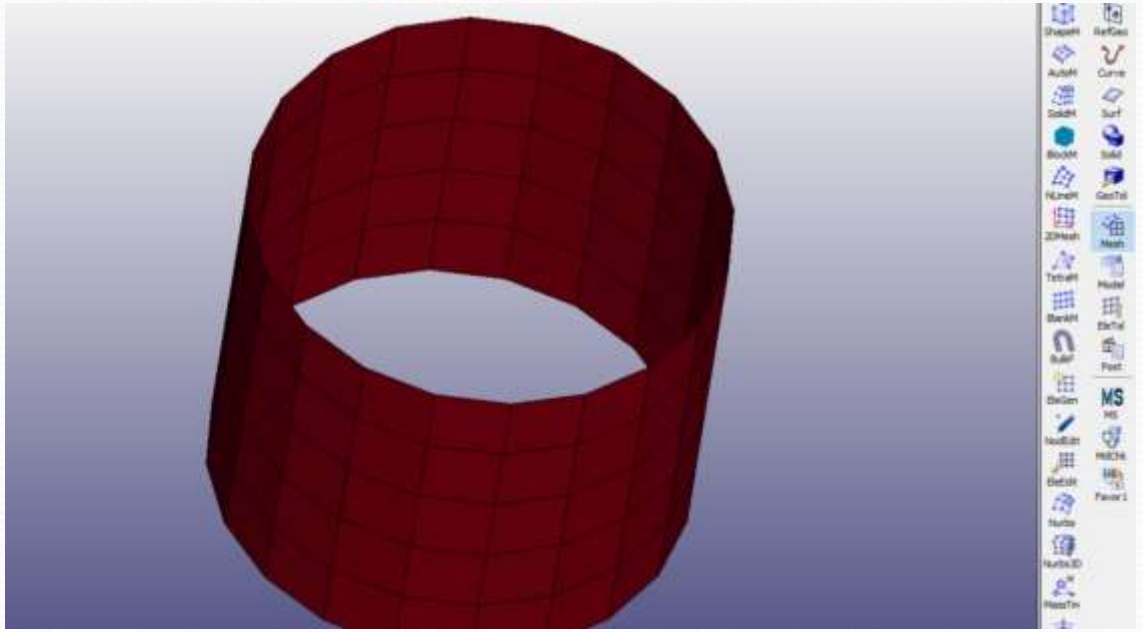
4. Click ***Model and Part->Create Entity*** at the right of the screen. Select Set ***Dat->*SET_NODE->Cre***.
5.Select all the nodes at the left end of the mesh. Creak node set: setID 1, Title: Fixed end. Then click **Apply.** Build another node set by SetID 2, Title: loaded end, clicking **Apply**.
6.Output ***File->import->LS-DYNA Keyword file***. Save as tryperimesh.k. Open tryperimesh.k. You can find each element has its own nodes, i.e., there are 80 brick elements and 640 nodes.

Example 6: laminate mesh

Objective: build multi-layers mesh for laminate.

Filename: none
Description:
Generates a two layers shell mesh and transfer it to discontinuous mesh used by peridynamics.
You are expected to do the following studies by ***lspp43***:

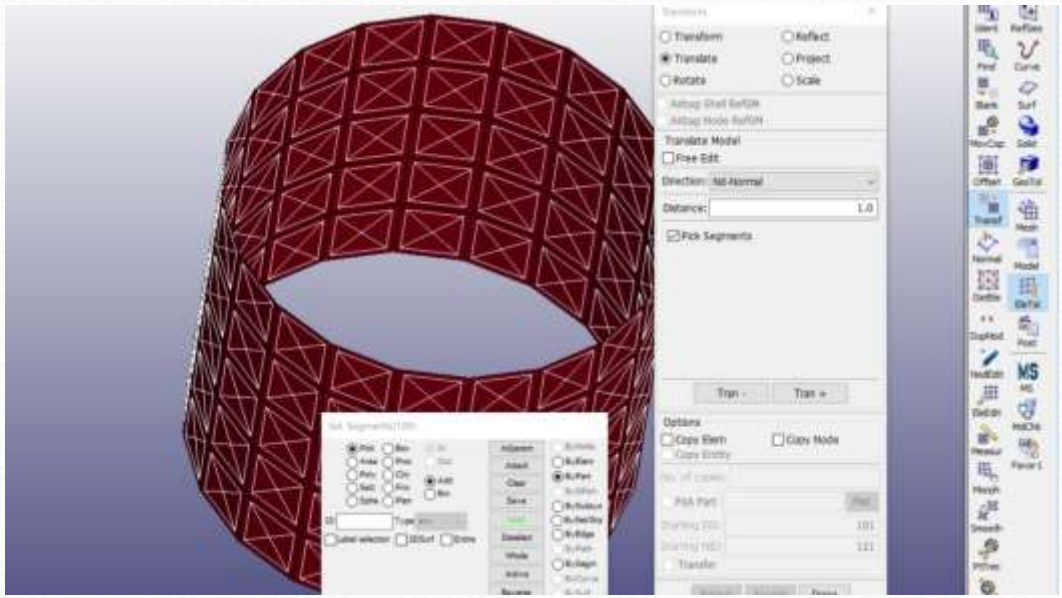
1. build a shell mesh

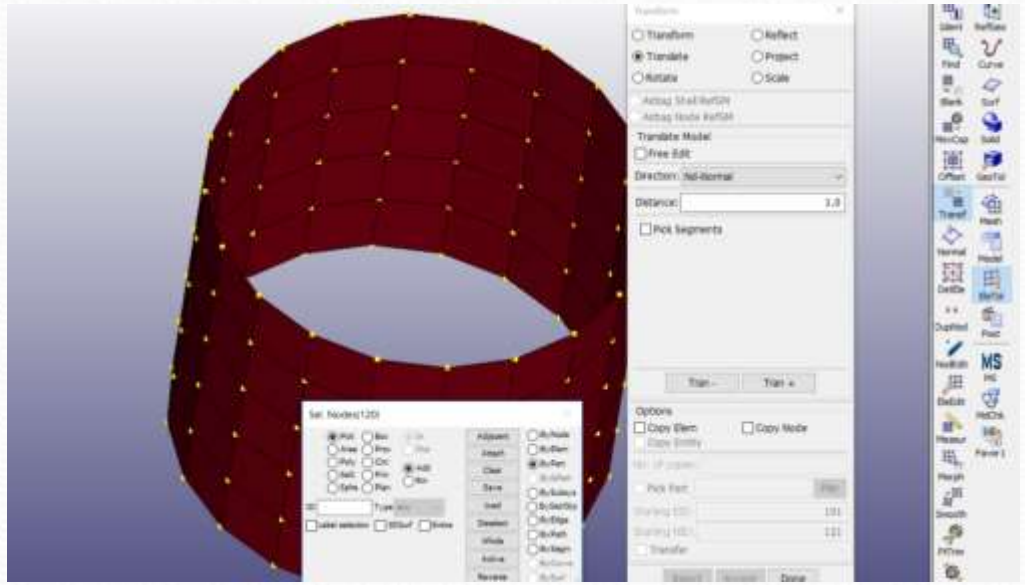


Example 6: laminate mesh

Objective: build multi-layers mesh for laminate.

2. EleTol->Transf->Nd Normal
   Put distance value.
   Select the whole shell part



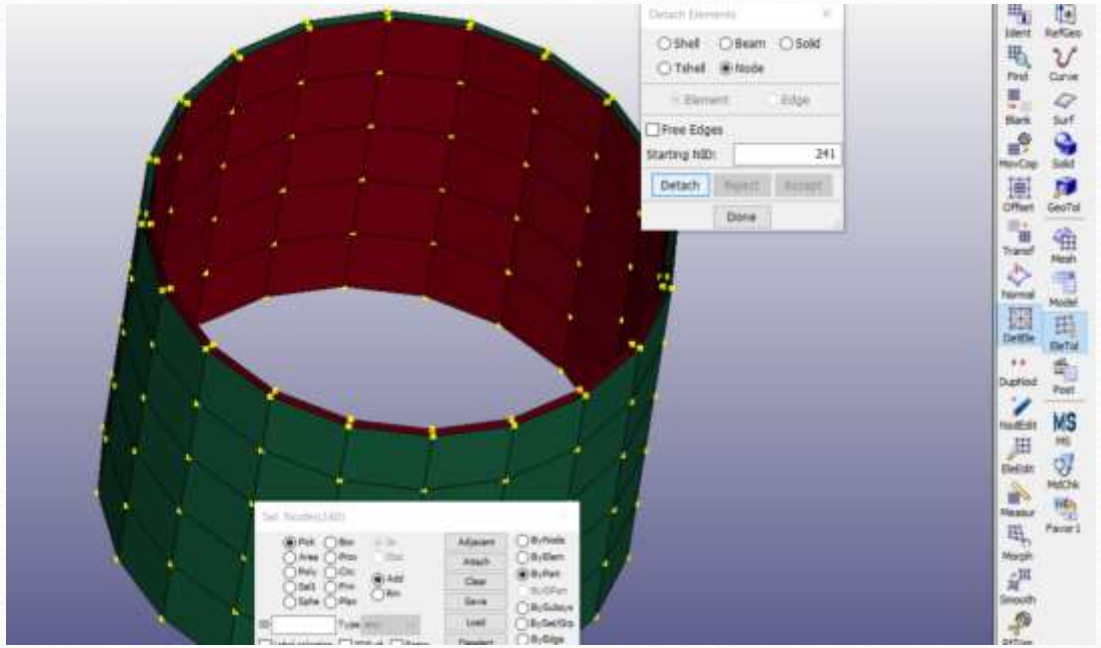


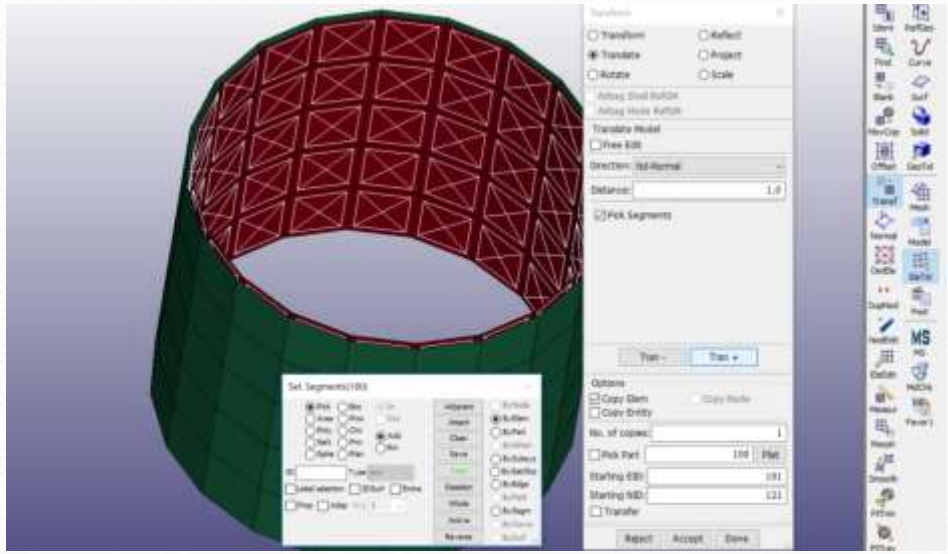
3. Check Pick Segments and select the whole shell part.

Example 6: laminate mesh

Objective: build multi-layers mesh for laminate.

4. Check Copy Elem, input the number of copies as 1
input the new part number.
Click Trans + or Trans –
Accept.



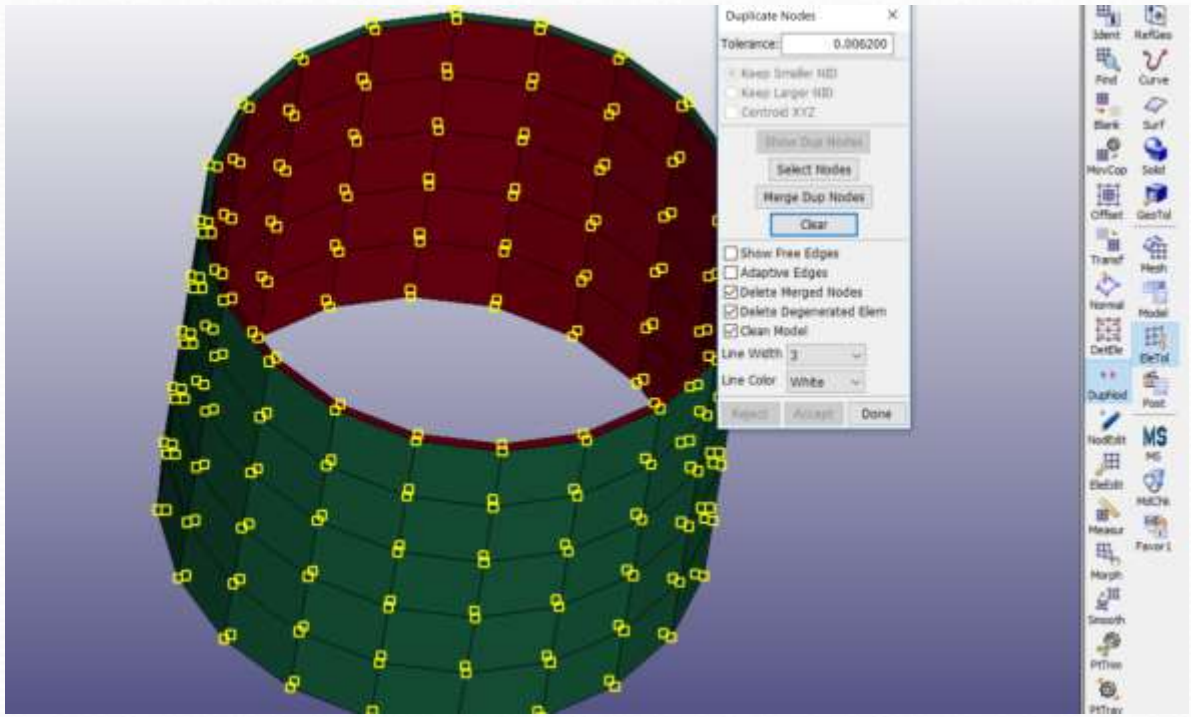


5. EleTol->DetEle->Node.
Click Detach

Example 6: laminate mesh

Objective: build multi-layers mesh for laminate.

6. EleTol->DupNod-Show Dup Nodes.
   Check if all nodes are duplicated.



7. Save the mesh file. Change *ELEMENT_SHELL
To *ELEMENT_SOLID_PERI