SVS FEM

Body To Body Distance ACT

Your partner in computing

Description

Modul: Mechanical

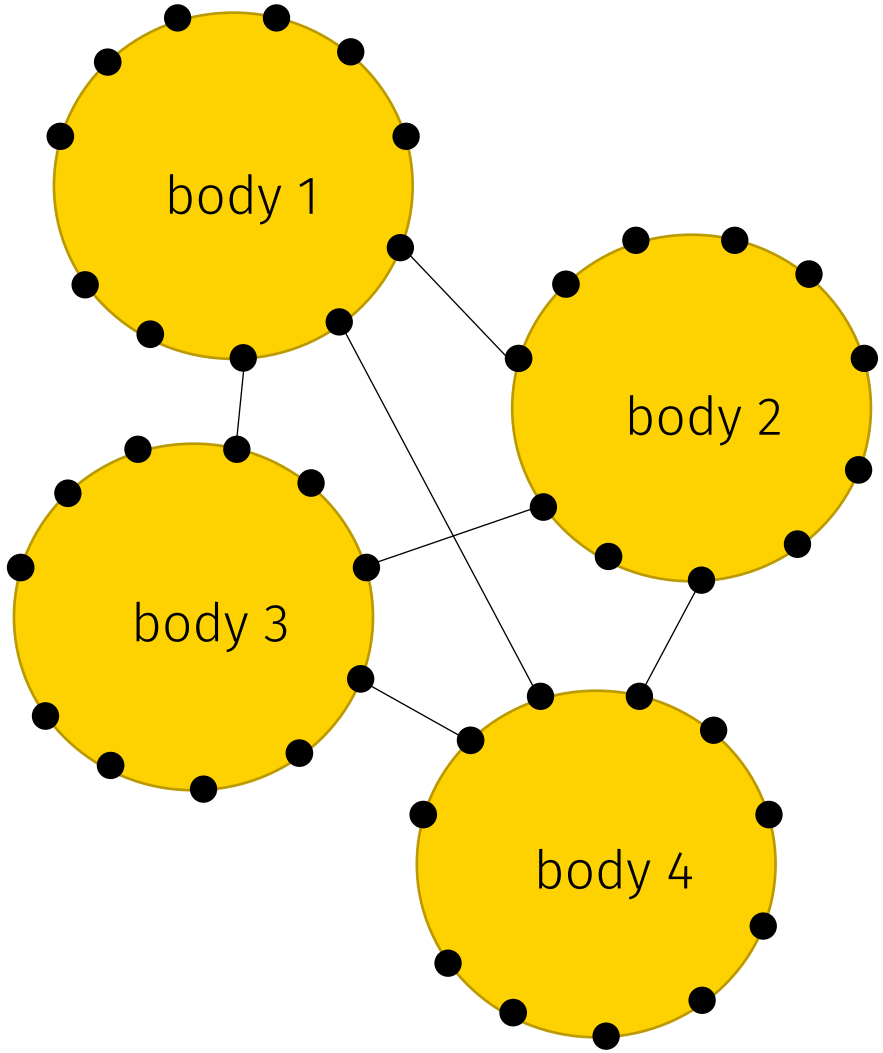
The ACT extension calculates nodal distance between all selected bodies over whole solution time history ...

Assumptions:

- 3D
- uses displacement
  - without any scale factor
  - evaluated over solution time history
- nodal distance
  - automatic dividing selection to bodies (couples)
  - node-to-node distance (nearest nodes)
  - finer mesh => more accurate distance
  - only external nodes are used
- contact penetration
  - basic Ansys contact is more precise for evaluation of small gaps and small penetration, because projection method is used

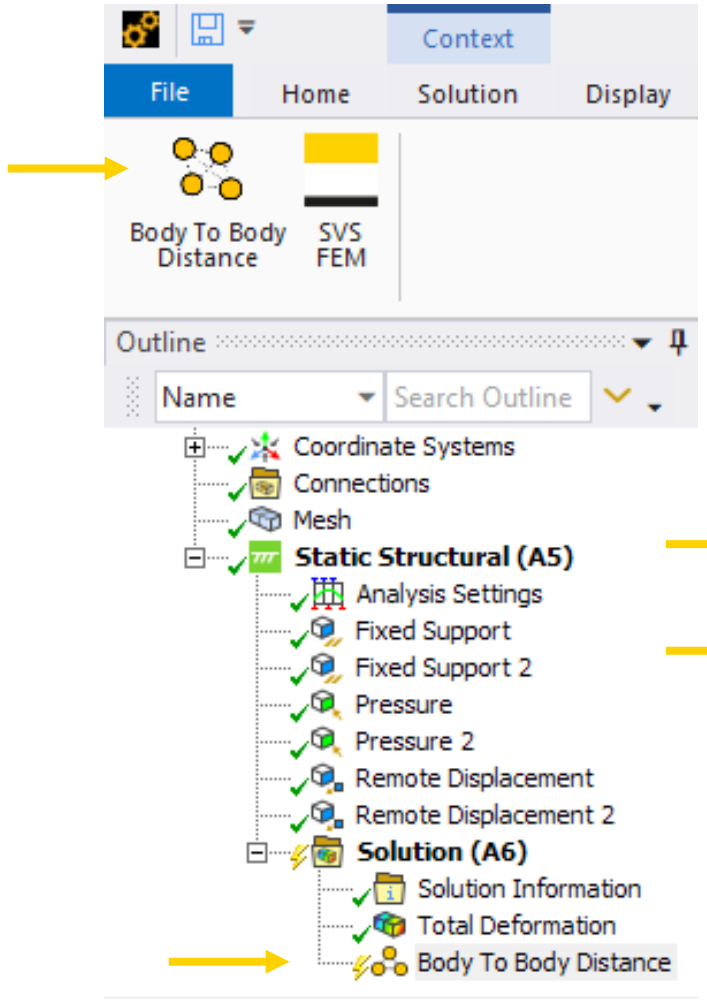
Example:

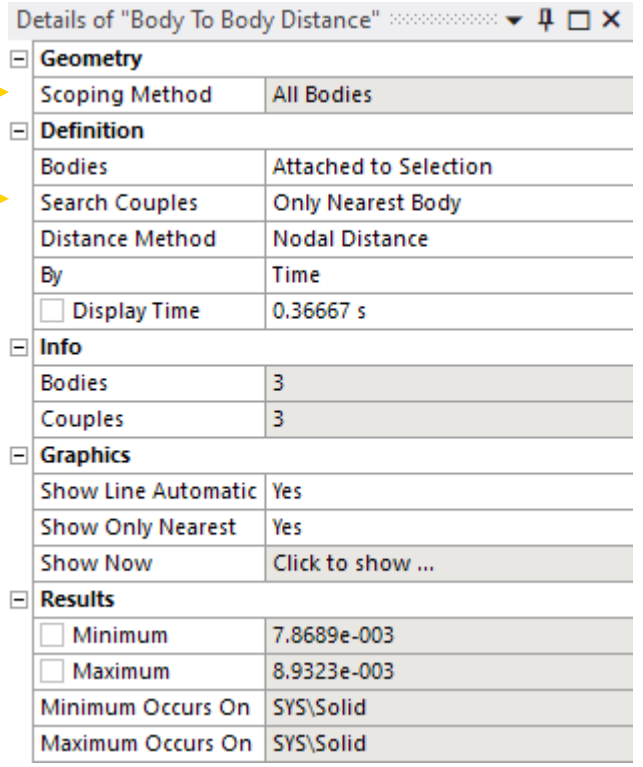
4 bodies => 5 couples => 5 distances



Workflow

1. Install and load ACT
2. Use Body To Body Distance button
3. Setup Geometry Scoping
   - which nodes will be used
4. Search Couples
   - if you would like see all distances between all bodies (each-to-each)
   - or only one distance between closest bodies
5. Evaluate the Body To Body Distance object





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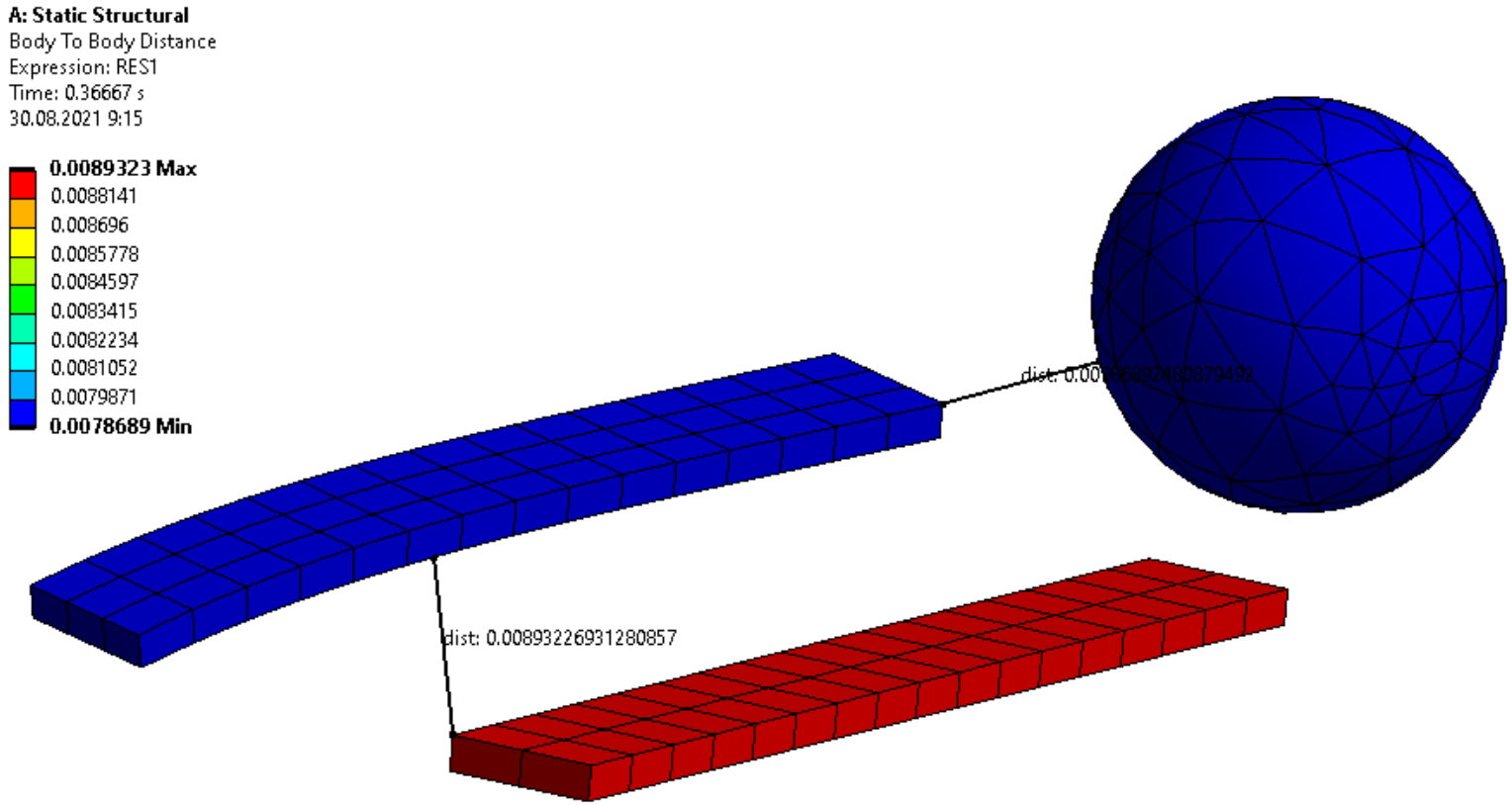
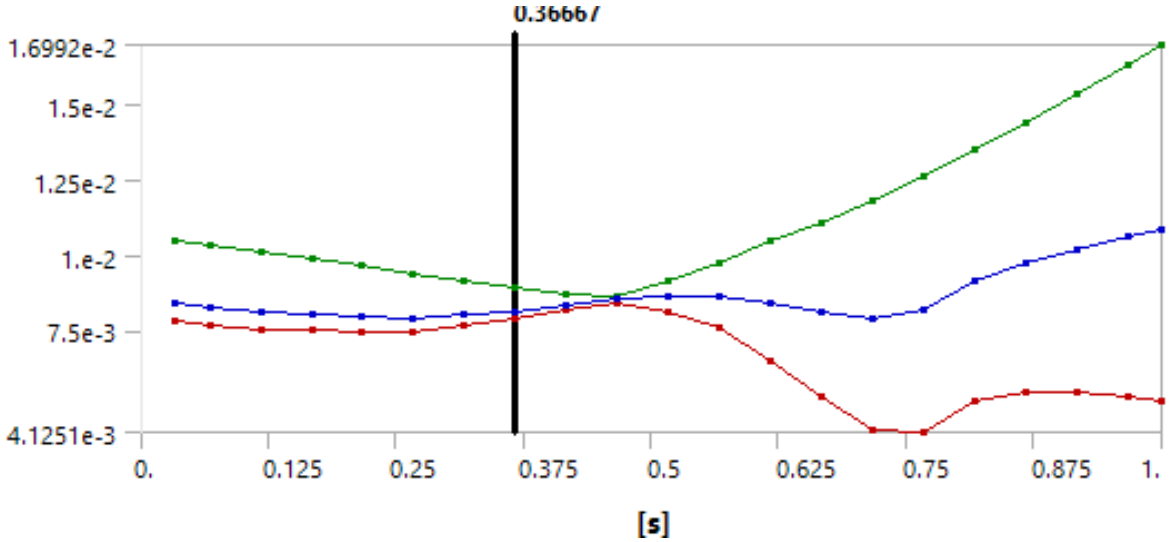
Results

1. Graph and Tabular Data
   - min-average-max distance progress over solution time history
   - retrieving a time
2. Graphics
   - contour plot where colour shows minimal distance for a body
   - additional graphics (line and text) show connecting line between closest points and writes their distance for current time point





Thank you for using SVS FEM ACTs

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