Summary of Comments on Romain PINQUIE - CAE_KH - PDF Converter Enterprise 7.0

Page:1

Author:Kevin Hughes Subject: Date:14/05/2012 18:33:09

Marks

Well written report, demonstrating a good practical knowledge of FEA method. You explain the assumptions behind the model and clear understand the need for convergence studies.

It would have been useful to make more links to FEa theory and also to discus how you defined your beams, including the transverse stiffness for Timoshenko, together with the need for beam offsets, orientations.

No references list provided

Interpretation of Problem = 9
Model Generation = 30
Baseline Analysis = 14
Outboard Flange Modification = 7
Web Stiffeners = 15
Style and Presentation = 8

TOTAL = 83

Page:14

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

You have turned off the stress averaging for the sr4 elements, but not explained why. This is just for completeness in your report, but you are demonstrating a good practical knowledge of FEA.

Page:19

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

well done, it is important to check reapplied loading / static equilibrium checks.

Page:20

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Good! You have really put into practise what was demonstrated through the tutorials / debrief sessions.

You have defined local coord systems and transformed the results...good!

Page:21

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Von Mises stress is a useful parameter, but it would have beneficial to look at the different stress components, so as to resolve top / bottom surface stresses, etc.

Page:23

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Very good
Would have been useful to look at flange / web components as well to investigate this further.

Would have been useful to relate this to the orientation of the surface normals

Page:26

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Detailed study performed, showing a good understanding of the need of a mesh convergence study.

Would have been useful to go into a little more detail of he differences between the element type, but you have used the elements appropriately, in addition to matching same order element types..

You do not mention aspect ratio / discuss the element quality checks, but really good start to this assignment.

Page:27

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Very good - you have to match "corner nodes to corner nodes" for different element types.

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

You should discuss briefly how you defined the beam elements? how did you orientate, define offset? What are the implications on The calculated stresses? (corner node stresses?)

Page:31

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Did you investigate the beam stresses, as you now have a load share between the flange and stiffener....do these stresses exceed yield of material?

Page:33

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Would be useful to explain why this has resulted in these extra partitions. You have correctly implemented this.....

Page:35

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

The web suffers from biaxial bending, so these stiffeners will help partially, but do nothing to increase bending stiffness around the global x axis (in your figures)

Page:39

Author:Kevin Hughes Subject: Date:12/05/2012 19:01:14

Good report, clearly written and nicely presented.