

The example here presents a cantilever beam that is loaded at the end
The error is shown with mesh refinement
This analysis has been done with plane stress assumption with conventional 4 noded element

Overall relative error in stress estimation displacement based formulation

err =

2.1849e-011

relative error in Displacement at right end with coarse mesh

ans =

-0.2798
-0.2799
-0.2799
-0.2799
-0.2798

Overall relative error in stress estimation displacement based formulation

err =

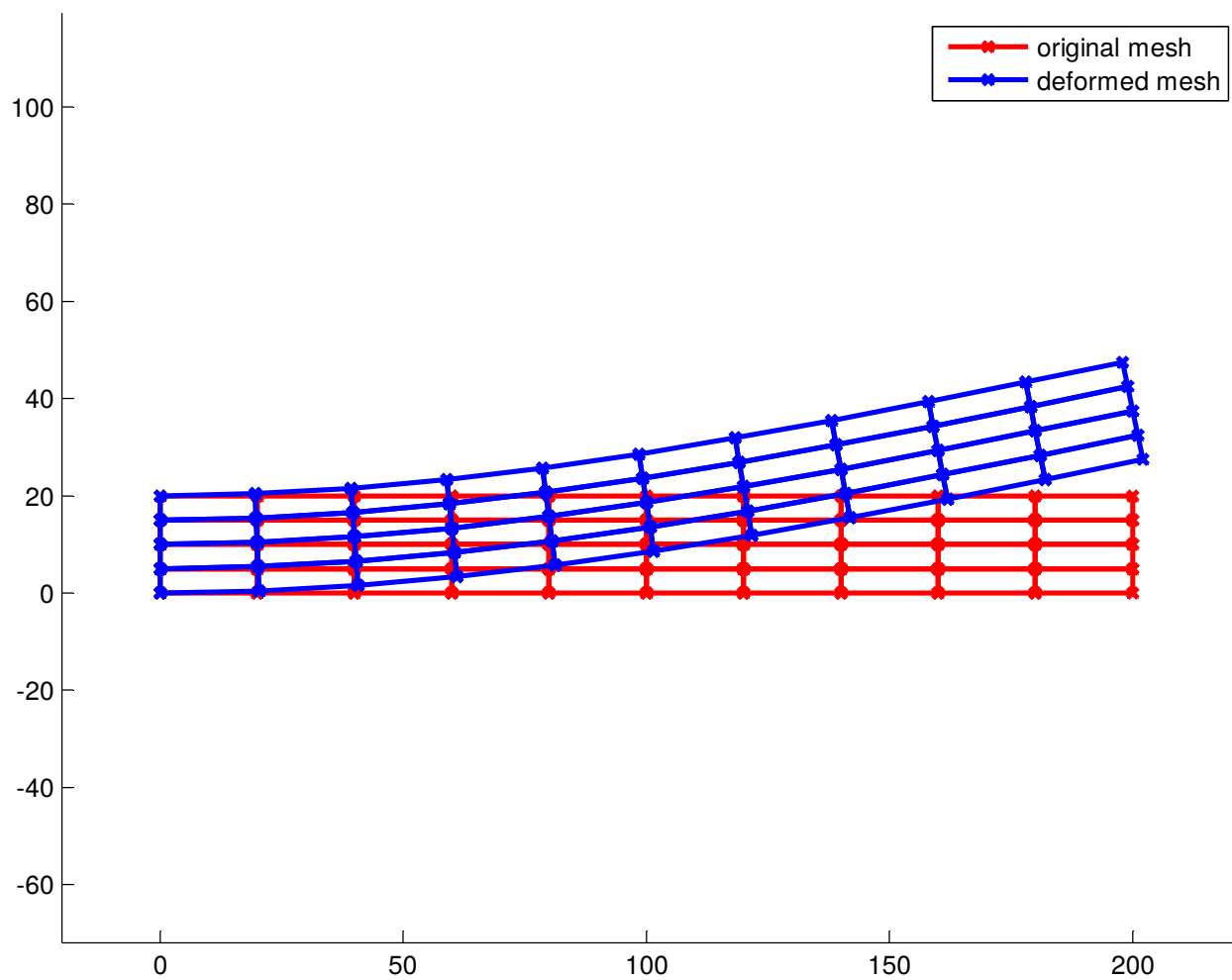
1.8359e-011

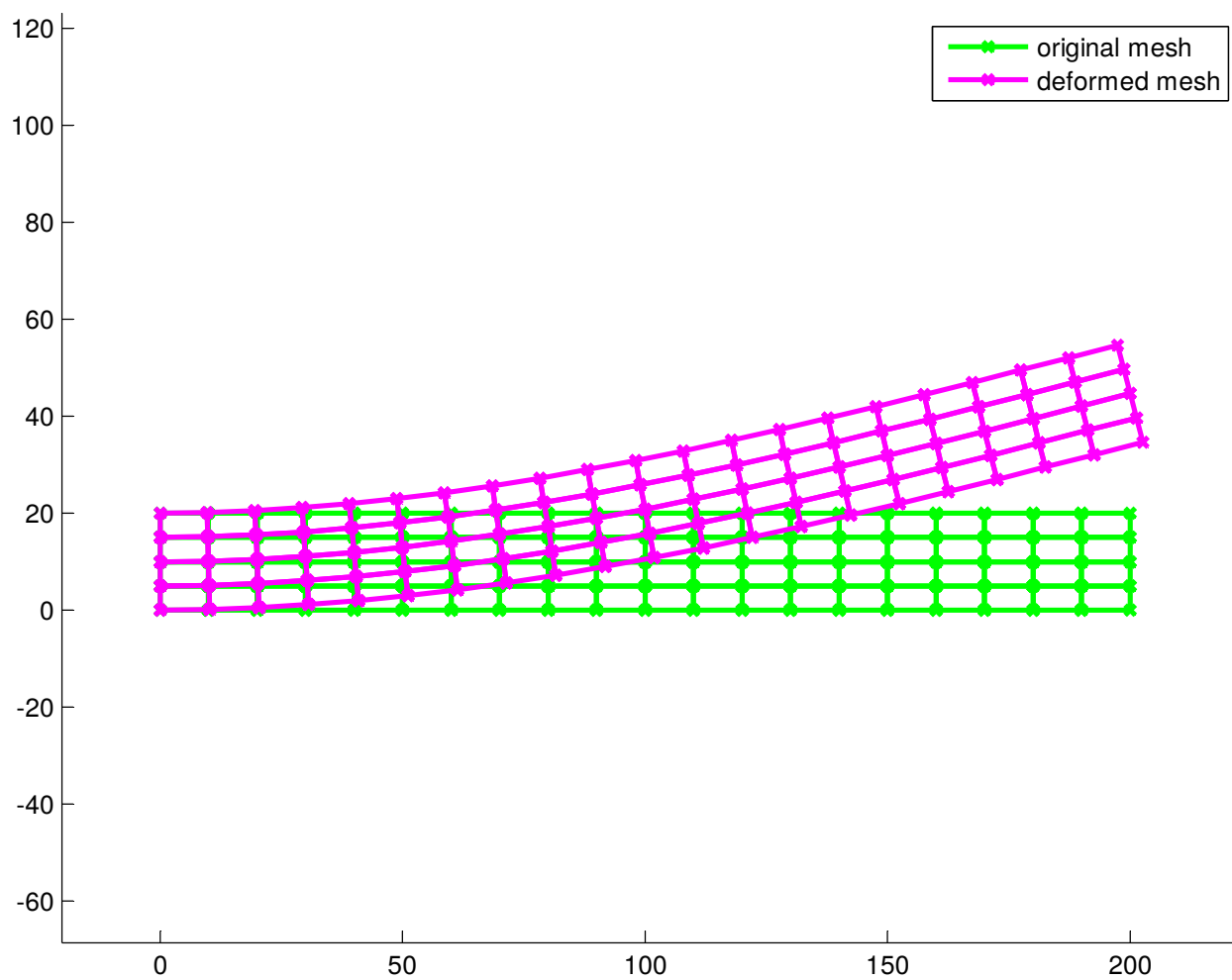
relative error in Displacement at right end with fine mesh

ans =

-0.0897
-0.0897
-0.0897
-0.0897
-0.0897

>>





The example here presents a cantilever beam that is loaded at the end
The error is shown with mesh refinement
This analysis has been done with plane stress assumption with hybrid 4 noded element

Overall relative error in stress estimation Hybrid based formulation

err =

3.0138e-011

relative error in Displacement at right end with coarse mesh

ans =

-0.0023
-0.0024
-0.0024
-0.0024
-0.0023

Overall relative error in stress estimation Hybrid based formulation

err =

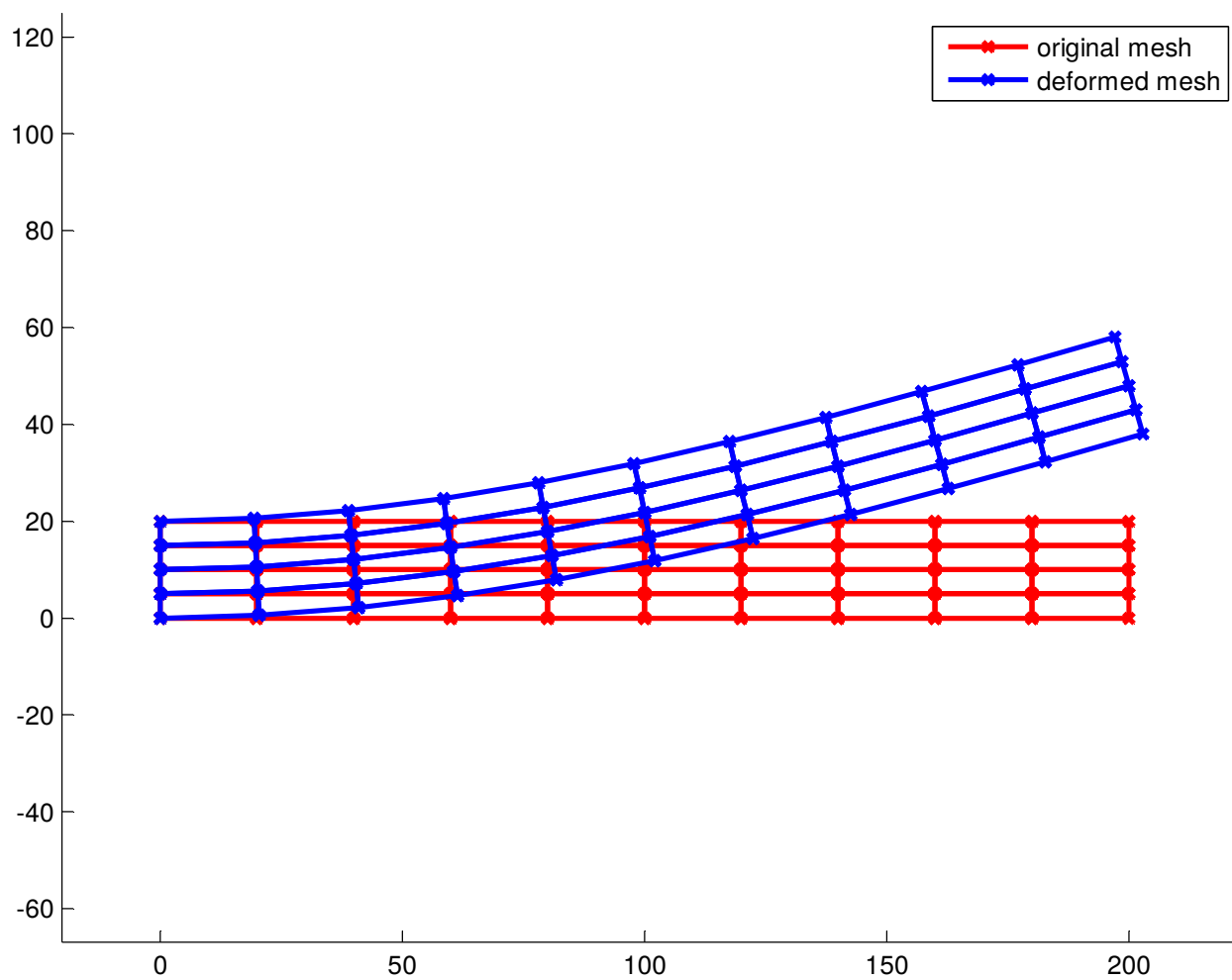
1.8963e-011

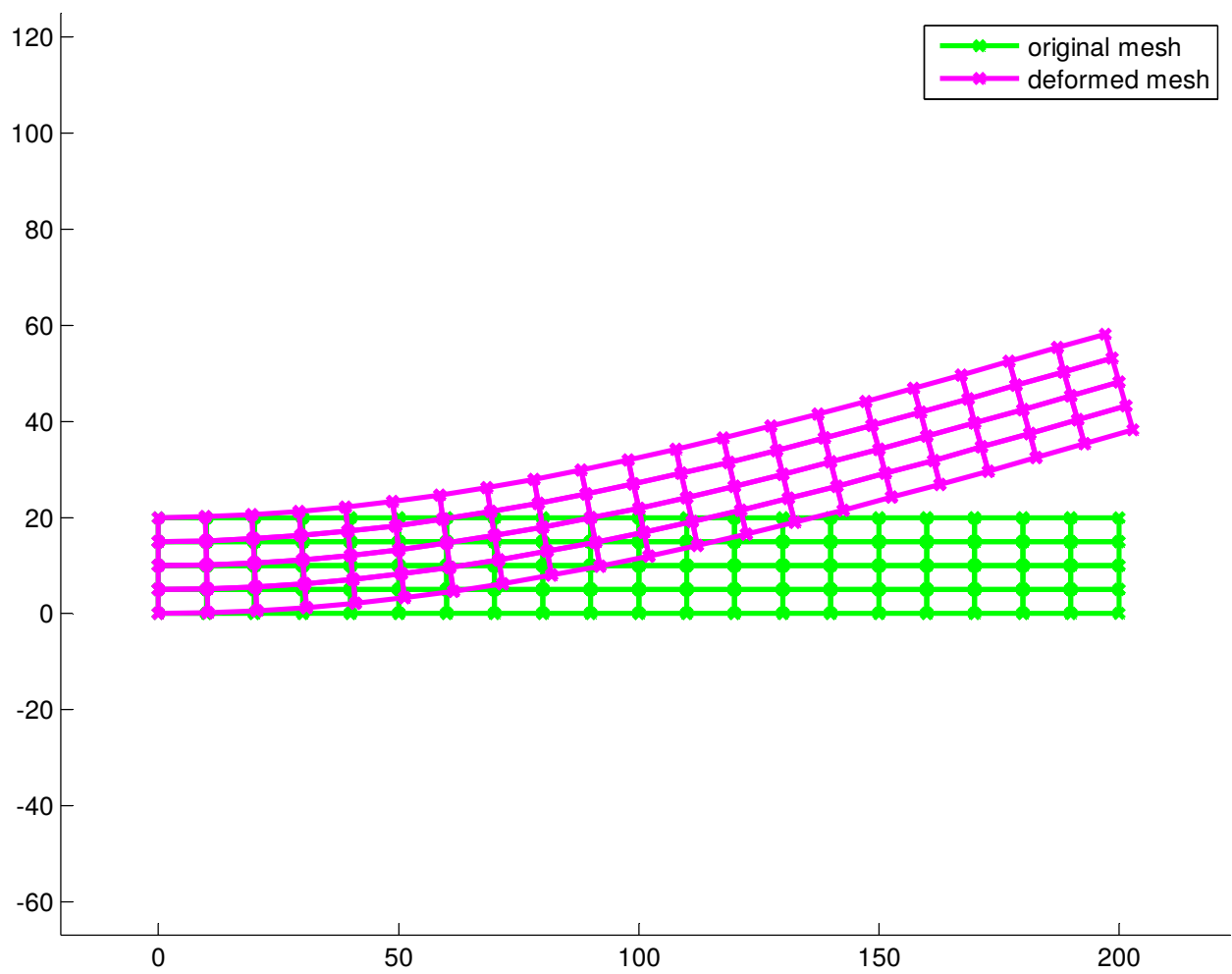
relative error in Displacement at right end with fine mesh

ans =

0.0028
0.0028
0.0028
0.0028
0.0028

>>





The example here presents a cantilever beam that is axially loaded at the end to check uniformity of the stress
This analysis has been done with plane stress assumption with conventional 4 noded element

Overall relative error in stress estimation displacement based formulation

err =

4.0010e-014

Overall relative error in stress estimation displacement based formulation

err =

3.0000e-014

>>

[illegible]

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>> G_Strs_Dsp_fn.m to show uniformity of the stress
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