

Simple Cantilever in Bending – Modelled using 20 node brick elements solved in Calculix

20 by 20 section, therefore $I = 13333.33$

Length = 250

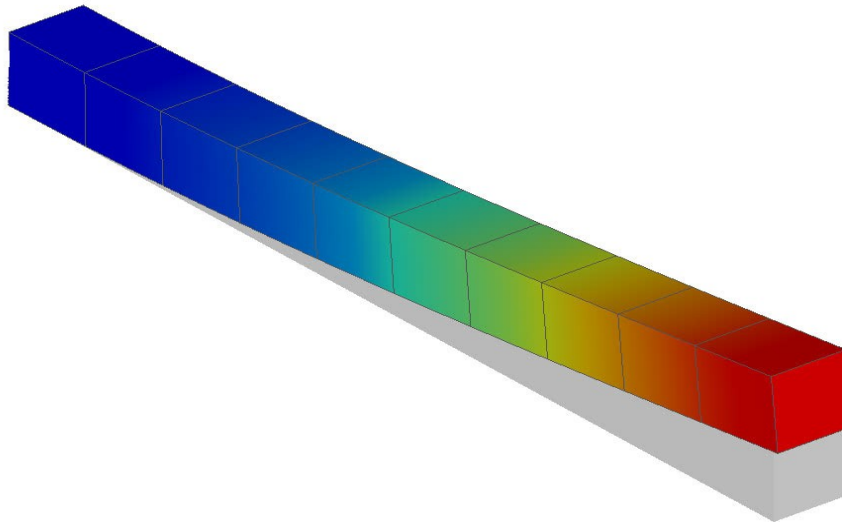
$E = 200000$

Load, $W = 10000$

Ignoring shear deformation effects, end displacement = $WL^3/3EI = 19.53$

Model : SIMPLE_CANTILEVER_IN_BENDING_VERY_COARSE
Case : bending
Displacement ALL
Maximum = 19.29
Minimum = 0.00

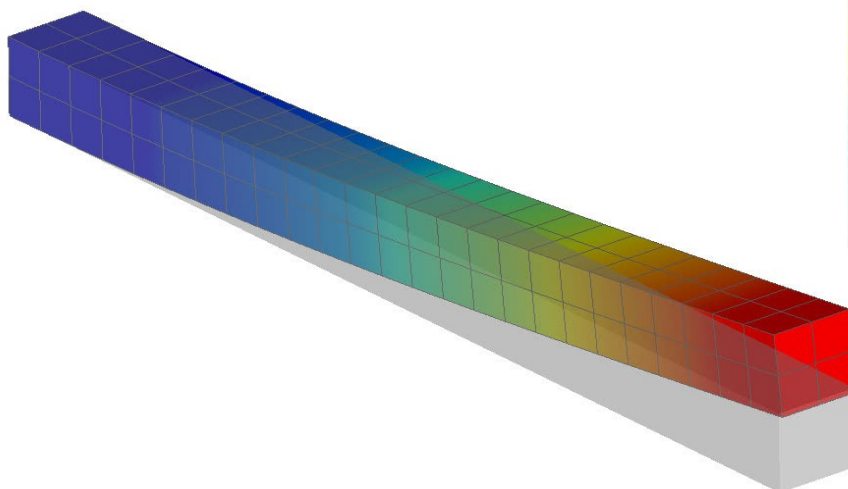
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21:43:47



ROSHAZ

Model : simple_cantilever_in_bending
Case : bending
Displacement Y
Maximum = 19.46
Minimum = 0.00

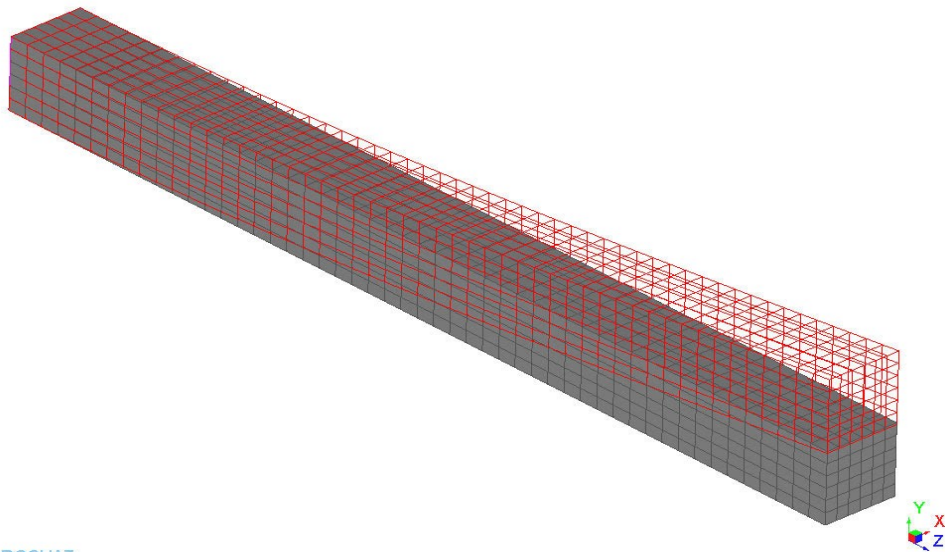
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ROSHAZ

Model : SIMPLE_CANTILEVER_IN_BENDING_FINE
Case : bending
Displacement Y
Scaling = 1.
Maximum = 19.51
Minimum = 0.00

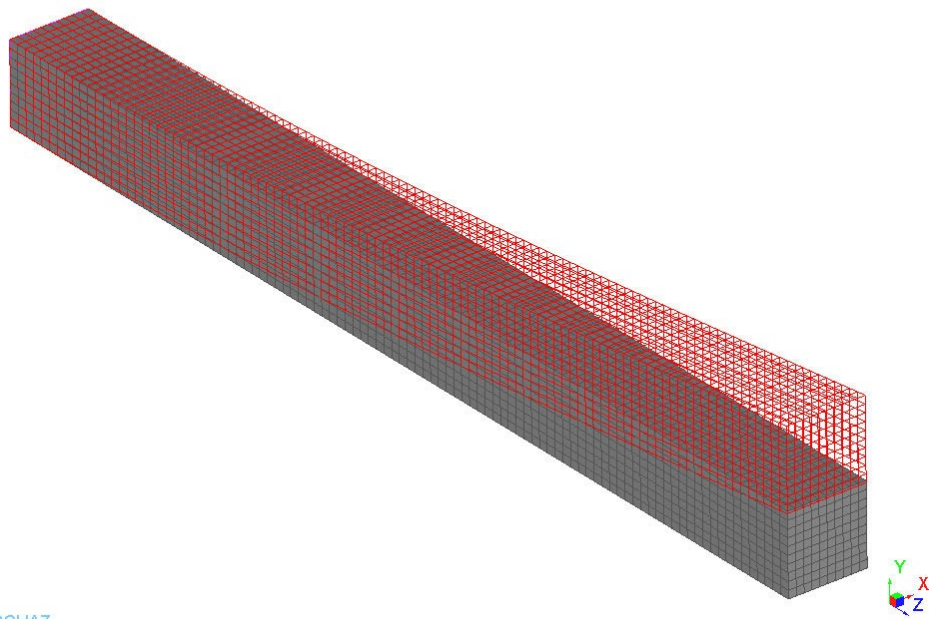
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ROSHAZ

Model : SIMPLE_CANTILEVER_IN_BENDING_VERY_FINE
Case : bending
Displacement Y
Scaling = 1.
Maximum = 19.52
Minimum = 0.00

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23:07:38



ROSHAZ

Summary of Results

Number of Elements	End Deflection	% Error
10	19.29	1.22
100	19.46	0.36
1800	19.51	0.10
10000	19.52	0.05