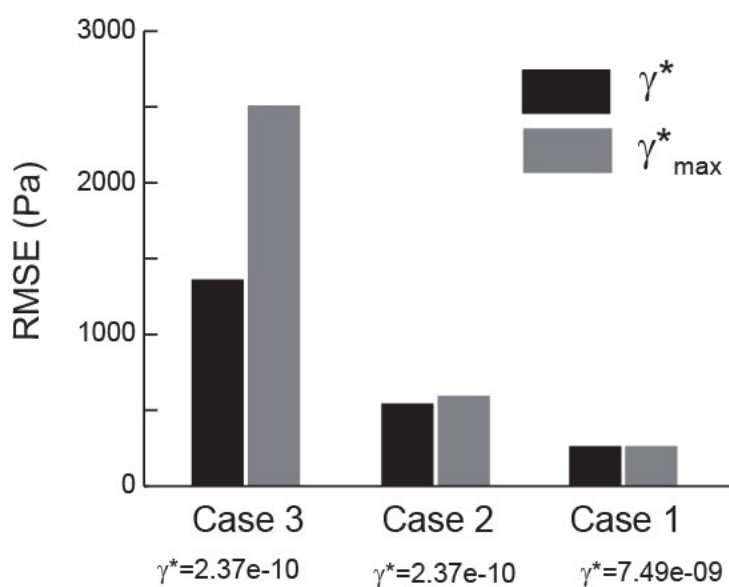


1 **Supplementary Figure 1**

2 RMS errors in traction reconstructions were calculated in the three cases by using the optimal value
3 of γ^* obtained for each case as compared to the maximum value of γ^* . Maximum value in this study
4 corresponded to Case 3, use of which significantly increased errors for Case 1 and case 2
5 reconstructions. This shows the need for optimization of γ^* on a case by case basis.

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1 **Supplementary Figure 1**



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1 **Table I**

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Mesh	Element Count	T_{max} (Pa)	T_{RMS} (Pa)	T_{ΔRMS} (Pa)	T_{RMSΔ} (Pa)
M1	4373	747.1	121.2	-----	
M2	16814	1068.6	137.9	16.7	32.5
M3	67998	1185.4	145.7	7.8	15.9
E ₁₂ : M1-M2				1.41%	2.74%
E ₂₃ : M2-M3				0.66%	1.34%

1 **Table II**

Cell	T_{max}(FTTC) (Pa)	γ^*	T_{max}(γ^*) (Pa)	T_{max}(γ^*_{max}) (Pa)	Relative error (%)
0	1299	1×10^{-12}	1286	1189	7.6
1	1382	1.7×10^{-12}	1360	1287	5.4
2	836	7.47×10^{-12}	819	744	9.2
3	1840	2.37×10^{-12}	1817	1745	4
4	940	3.16×10^{-12}	923	887	3.9
6	826	7.47×10^{-12}	815	799	2
7	789	1×10^{-13}	789	766	2.9
8	1310	1.78×10^{-11}	1297	1297	0

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