

Identification of material property: Hardness (50), Damping (Small)

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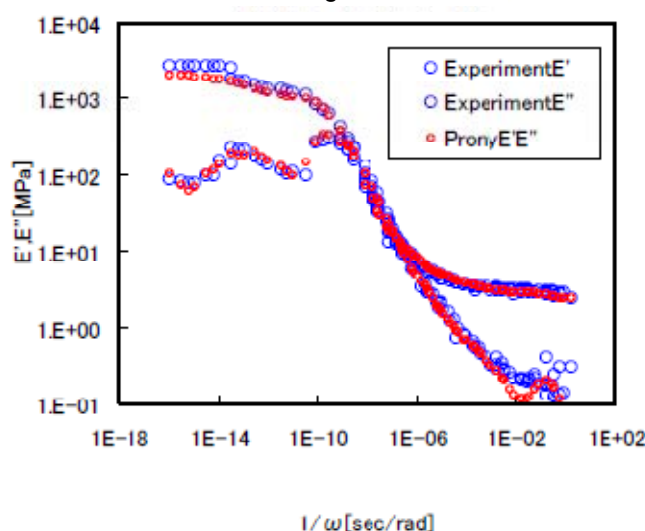
Young's Modulus[MPa]	Poisson's Ratio[-]
2.16876E+03	4.99000E-01

\bar{g}_i^P [MPa]	τ_i^G [sec]
8.86487E-02	1.06103E-16
6.33728E-02	3.18310E-15
1.31797E-01	3.18310E-14
1.48944E-01	3.18310E-13
7.76324E-02	3.18310E-12
1.70599E-12	3.18310E-11
2.85856E-01	1.59155E-10
1.70447E-01	1.59155E-09
2.44160E-02	1.59155E-08
4.57681E-03	1.59155E-07
1.88173E-03	1.59155E-06
5.59301E-04	1.59155E-05
3.51830E-04	0.000159155
1.58752E-04	0.001591549
3.10742E-05	0.015915494
1.87728E-04	0.159154941

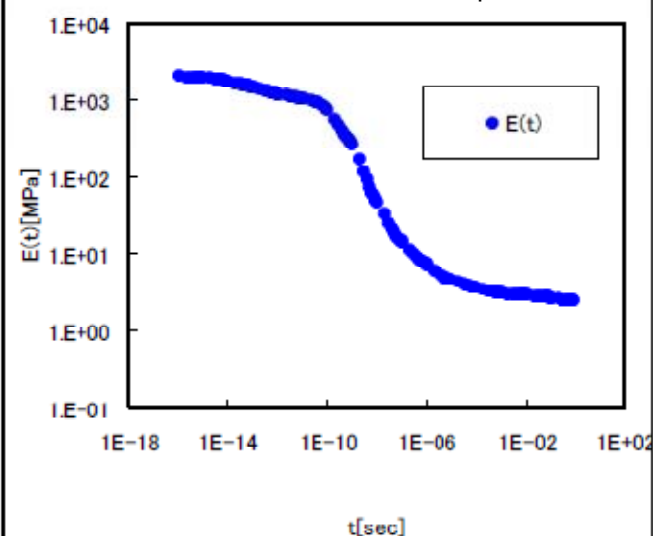
Prony series

$$G(\tau) = G_0 \left\{ 1 - \sum_{i=1}^N \bar{g}_i^P \left(1 - e^{-\tau/\tau_i^G} \right) \right\}, \quad K(\tau) = \infty$$

Actual measurement along with fitted curve

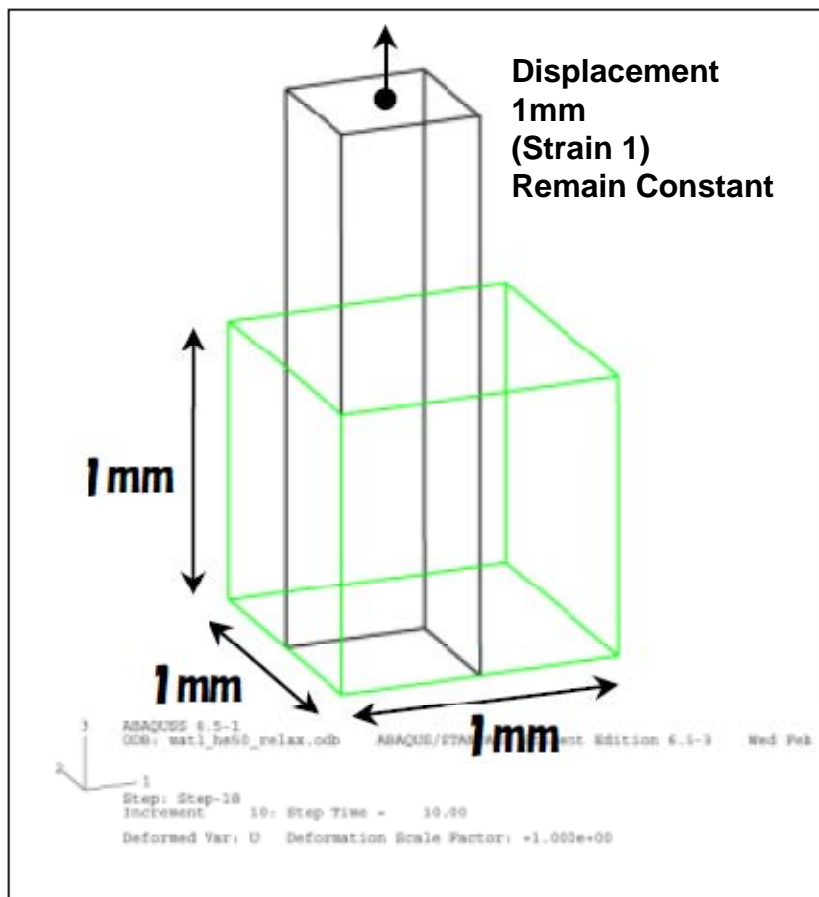


Stress-relaxation curve with identified parameters

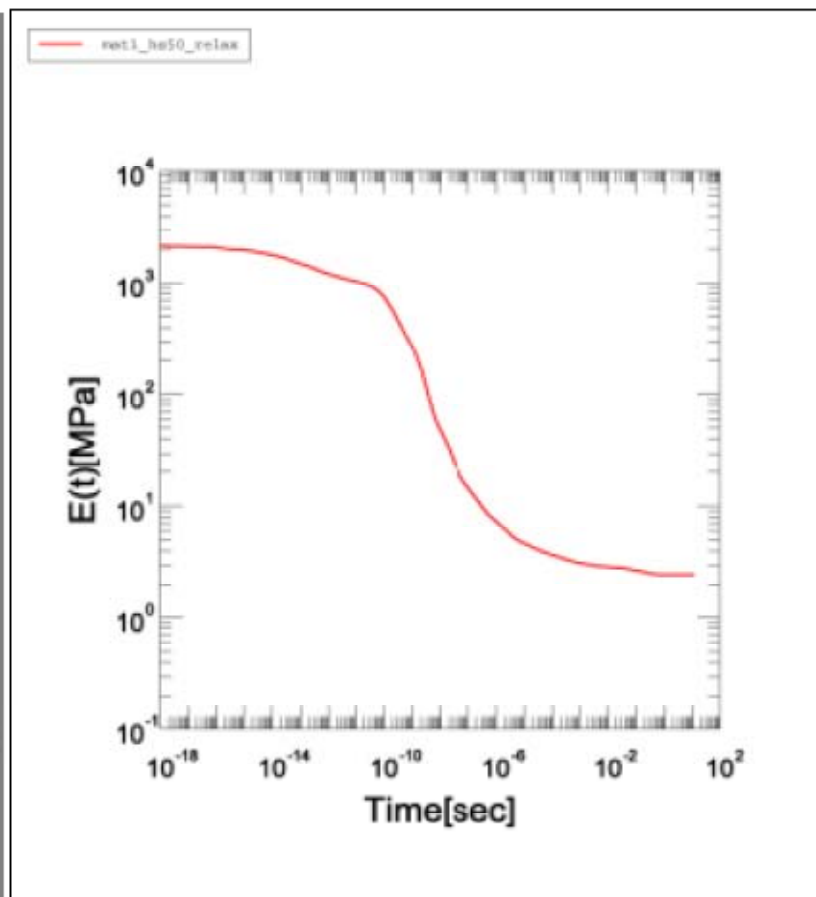


Stress-relaxation analysis: mat1_hs50_relax.inp Hardness (50), Damping (Small)

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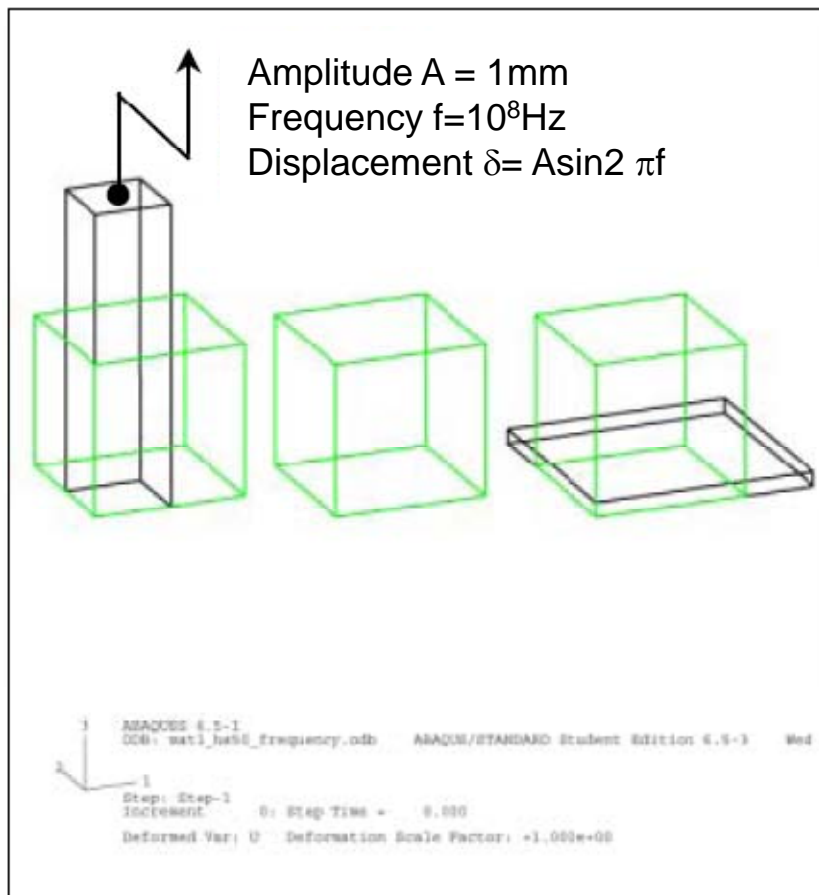
Analysis model



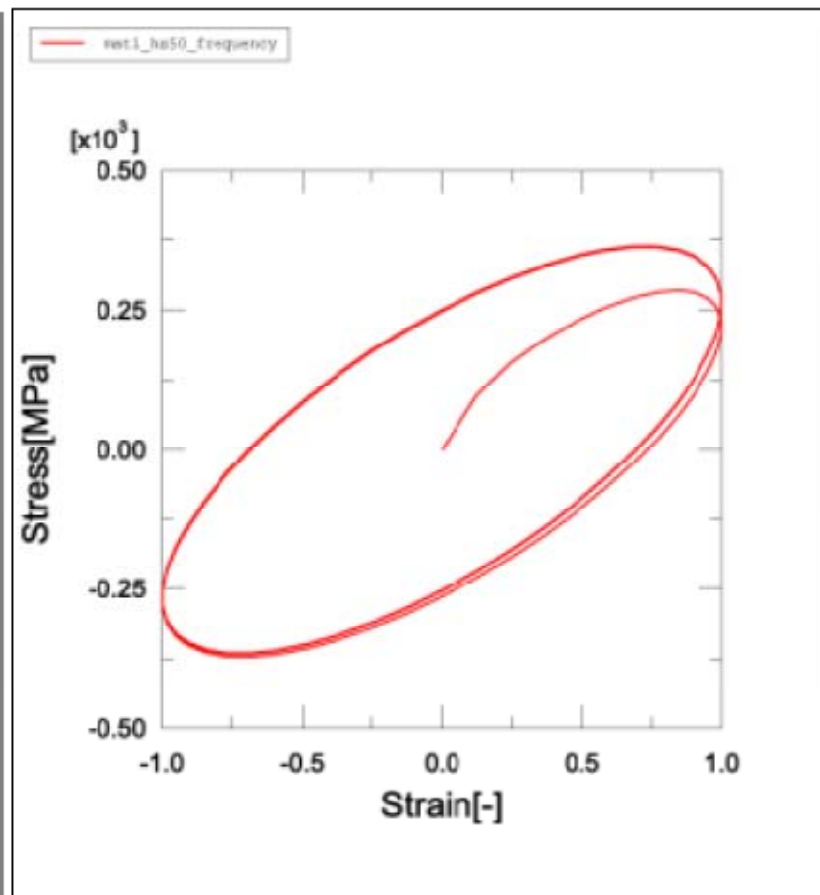
Stress-relaxation curve

Frequency response analysis : mat1_hs50_frequency.inp Hardness (50), Damping (Small)

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Analysis model



Hysteresis curve