

# θ6 Identification of material property

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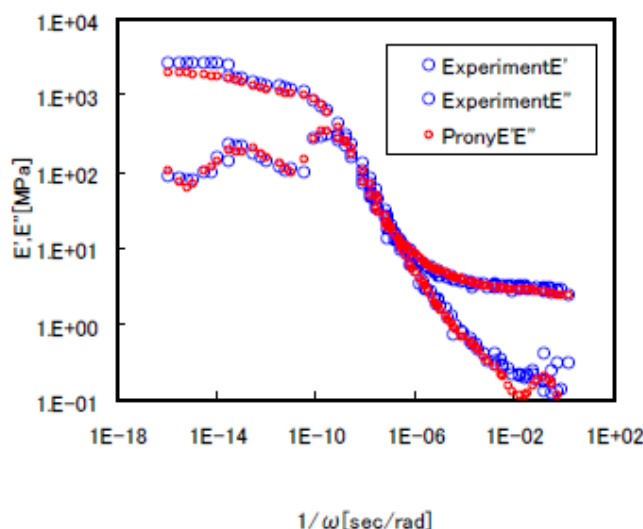
Young's Modulus [N/mm <sup>2</sup> ]	Poisson's Ratio
8.15301E+02	4.88000E-01

$G_i$ [N/mm <sup>2</sup> ]	$t_i$ [sec]
5.04525E+01	1.58155E-23
2.88915E+01	3.18310E-22
3.77158E+01	3.18310E-21
3.02785E+01	1.58155E-19
2.77219E+00	3.18310E-19
2.15082E+01	3.18310E-18
3.25460E+01	3.18310E-17
1.83208E+01	1.58155E-15
4.56409E+00	3.18310E-15
1.32319E+01	3.18310E-14
2.56422E+01	3.18310E-13
1.34838E+01	1.58155E-11
1.31458E+02	3.18310E-11
6.74008E+00	3.18310E-10
1.53632E+01	3.18310E-09
3.72888E+01	3.18310E-07
2.86487E+02	6.36620E-07
5.21808E+01	3.18310E-06
1.88046E+01	3.18310E-05
3.18752E+01	3.18310E-04
5.86558E+02	3.18310E-03
1.02181E+01	3.18310E-02
2.06046E+02	3.18310E+01
3.33742E+08	3.18310E+00
2.44874E-10	3.18310E+01

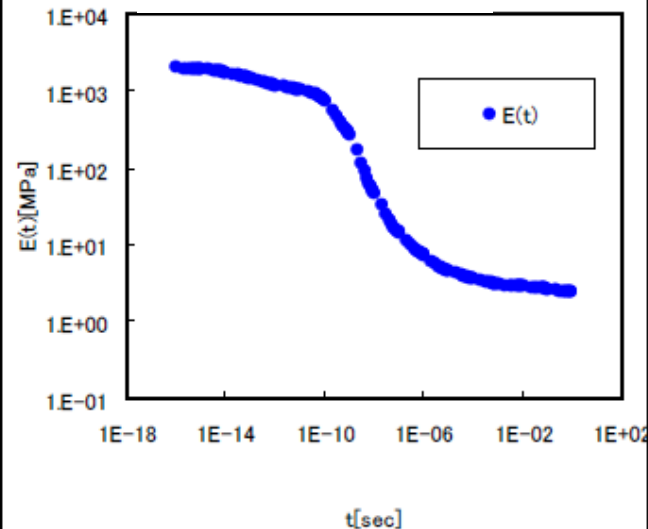
Prony series

$$G(t) = G^\infty + \sum_{n=1}^N G^n \exp\left(-\frac{t}{\lambda_d^n}\right)$$

Actual measurement along with fitted curve

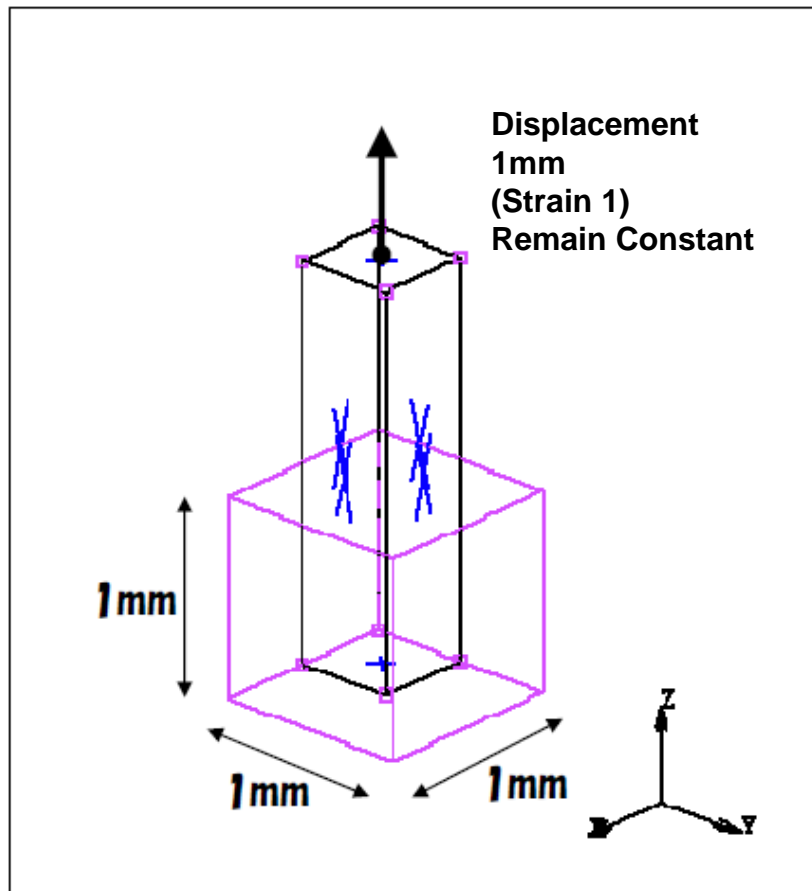


Stress-relaxation curve with identified parameters

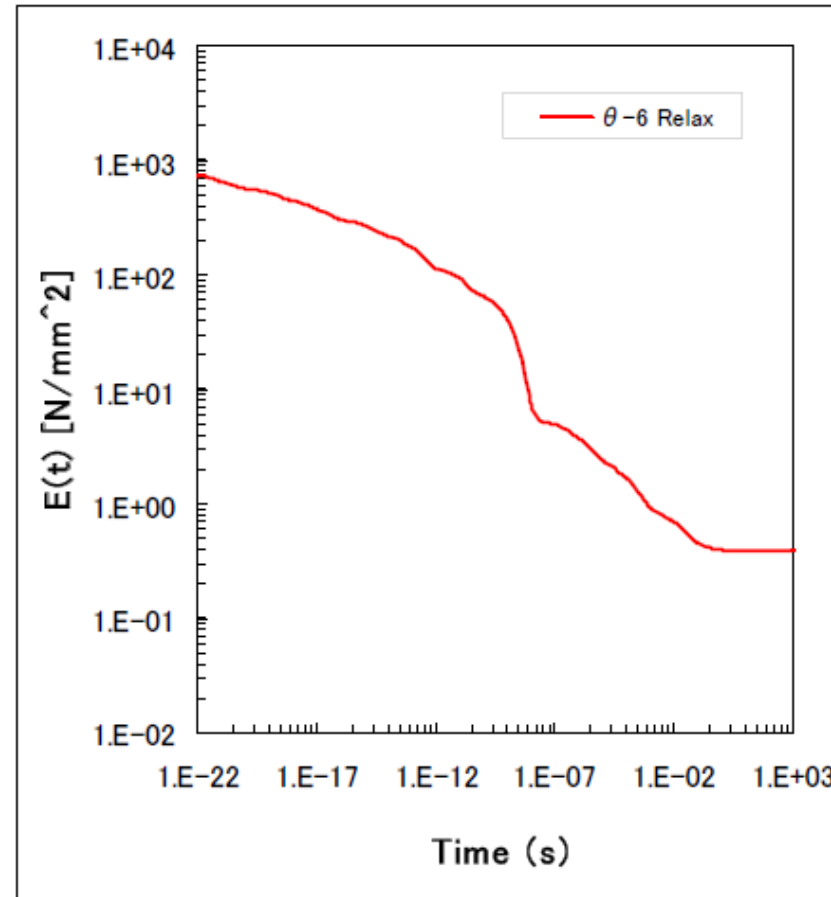


# $\theta$ -6 stress-relaxation analysis (theta6\_relax\_marc.dat)

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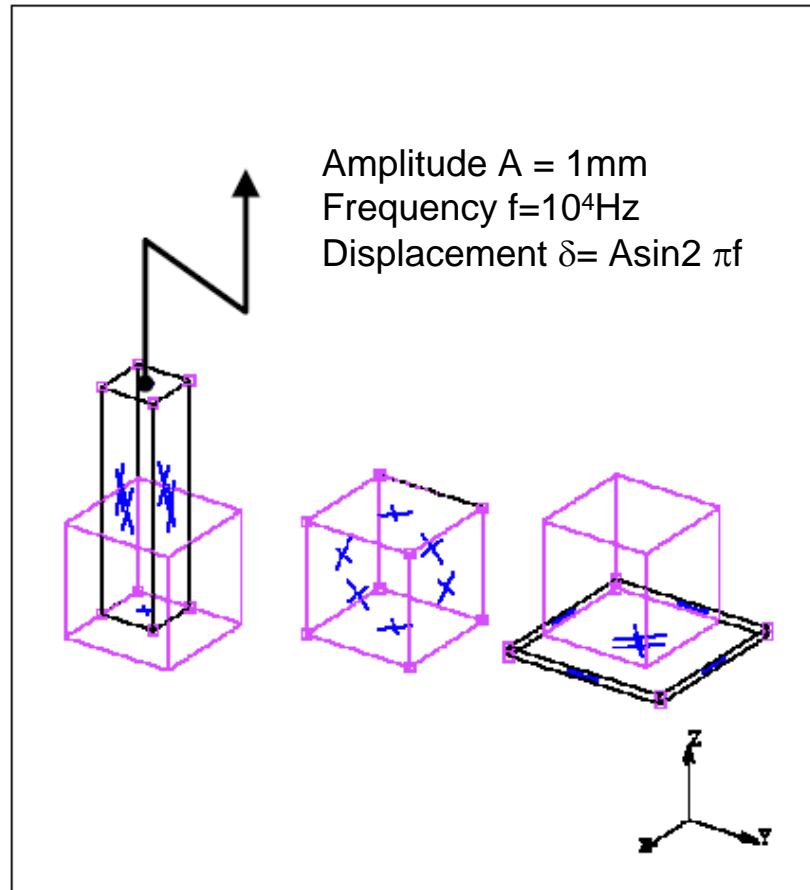
Analysis model



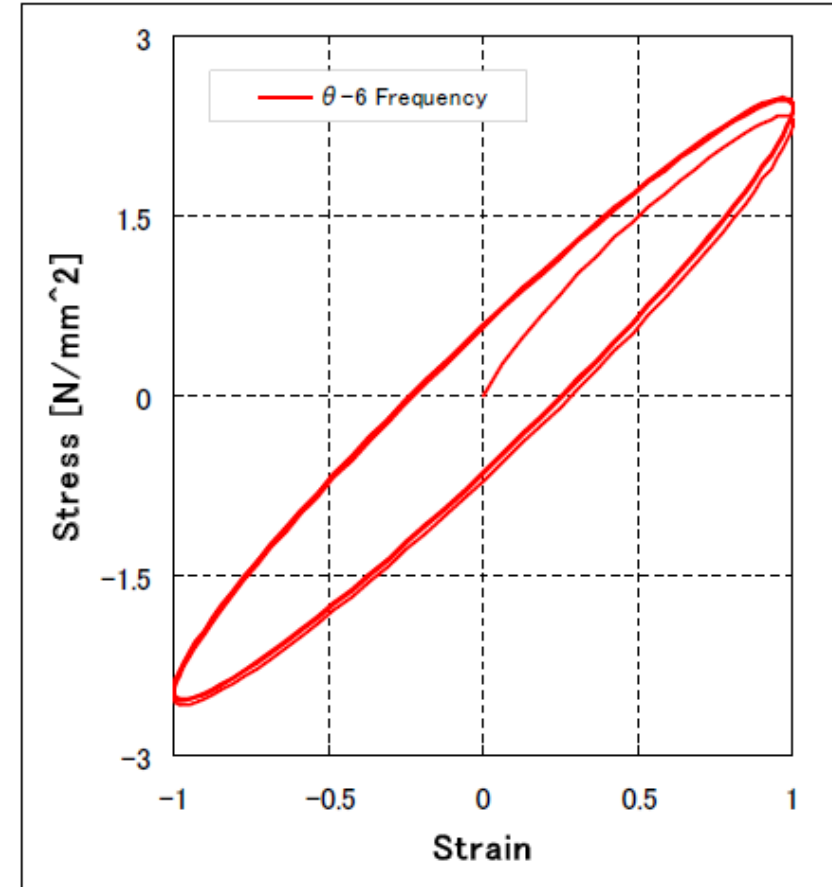
Stress-relaxation curve

# $\theta$ 6 Harmonic vibration analysis (theta6\_freq\_marc.dat)

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Analysis model



1000Hz hysteresis curve