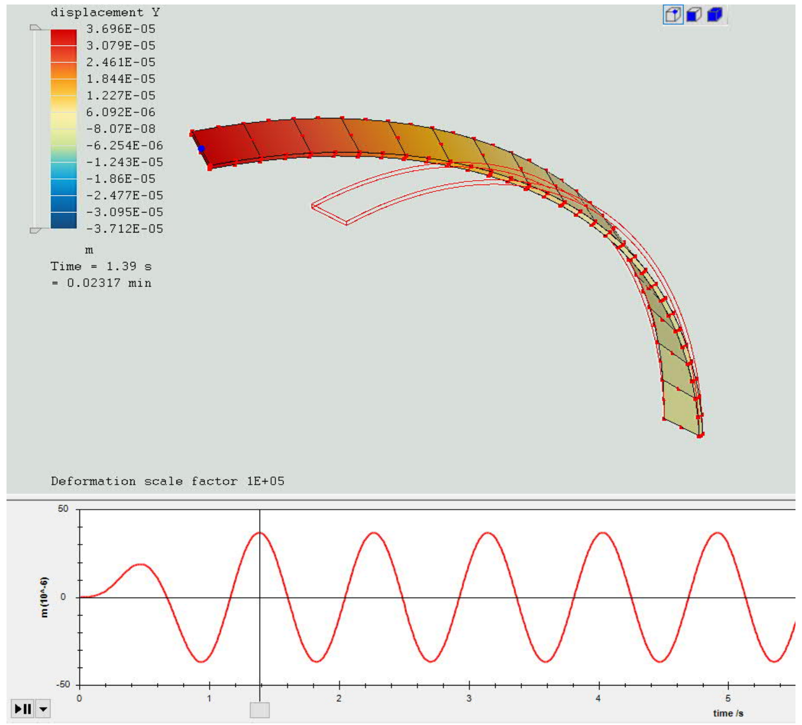
MODAL ANALISYS

MODE	EIGENVALUE	W	F
		[Rad/s]	Hz
1	8.3396	2.8878	0.4596
2	50.7365	7.1230	1.1337
3	197.9908	14.0709	2.2395
4	2,006.7800	44.7971	7.1297
5	2,700.5010	51.9663	8.2707
6	8,667.4600	93.0992	14.8172
7	25,715.7300	160.3612	25.5223
8	26,344.6700	162.3104	25.8325
9	62,024.0800	249.0463	39.6370
10	99,093.9200	314.7919	50.1007



Peack one	3.15	To
Peack two	4.03	T1
System Main Frequency	1.136	Hz
w1	7.140	rad/s

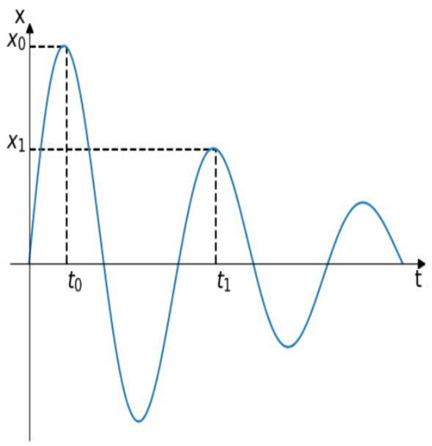
Determination of the damping ratio from the logarithmic decay

$$\zeta = \frac{\delta}{\sqrt{\delta^2 + (2\pi)^2}}$$

$$\delta = \ln \frac{x_0}{x_1}$$

$$f = \frac{1}{T} = \frac{1}{t_1 - t_0}$$

$$\omega = 2\pi f$$



Percentage of loss in Apmplitude in one Cycle.	15%
X0/X1	1.18
δ	0.1625
ζ1	0.02586

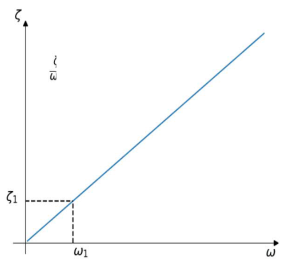
START HERE

Damping proportional to the stiffness. α=0

It is then most common to assume the case of damping proportional to the stiffness, that is, α=0, and the β stiffness coefficient is computed from:

$$\beta = \frac{2\zeta_1}{\omega_1} = \frac{\zeta_1}{\pi f_1}$$

ω1	7.140	[Rad/s]
β	0.00724	[s]
α	0.00000	[Rad/s]



Check Mecway/ccx			
Displacement (t=1.39s)	Y0	0.031356	mm
Displacement (t=2.27s)	Y1	0.026683	mm
Apmplitude Decay per cycle for w1.	14.90%		
Error	0.64%		