

'High Stiffness' Main Beam Girder

Matthew Capstick

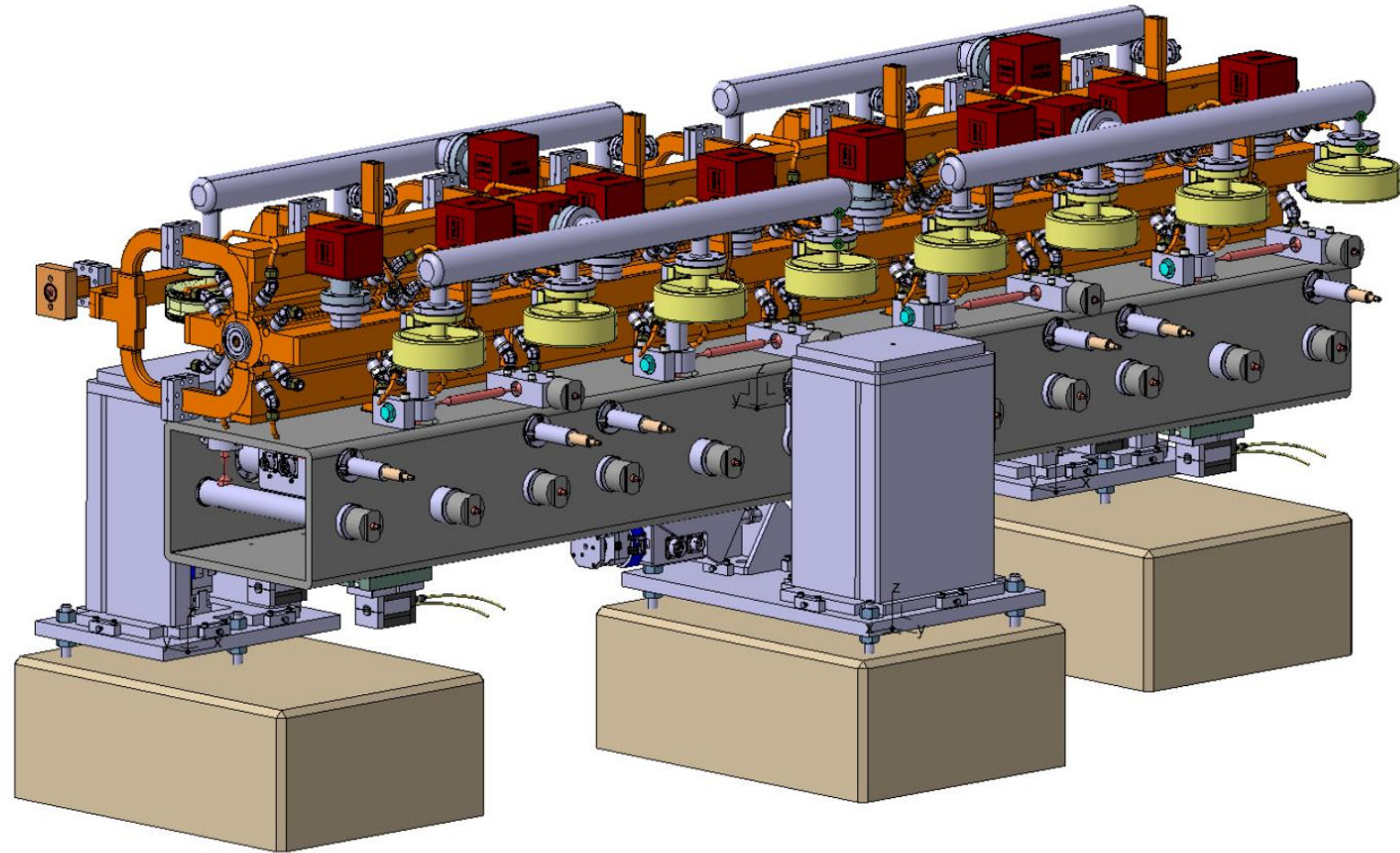
04-03-2020

'High Stiffness' Main Beam Girder

$\omega_0 \approx 55\text{Hz}$

Structure pre-alignment
range = $\pm 0.5\text{mm}$

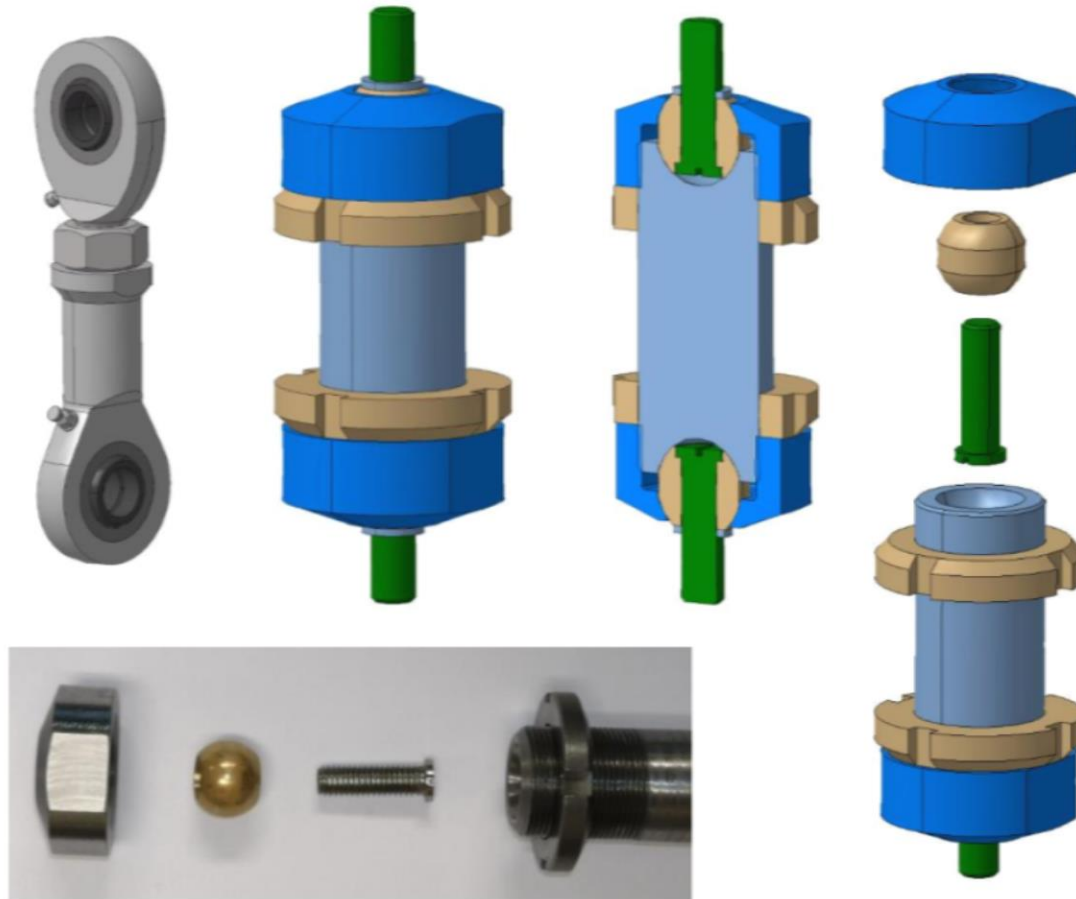
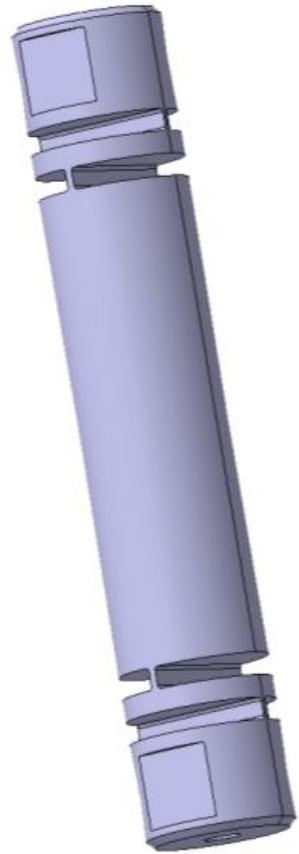
'Flexure' based girder
mover system



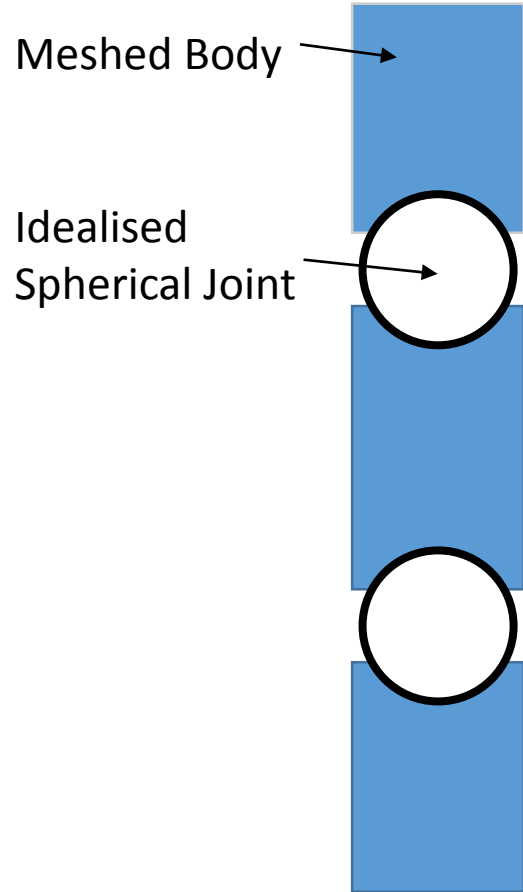
Girder Flexures

UAP zero-backlash joints

- Zero backlash, self lubricating (sintered bronze SELFOIL) based joints

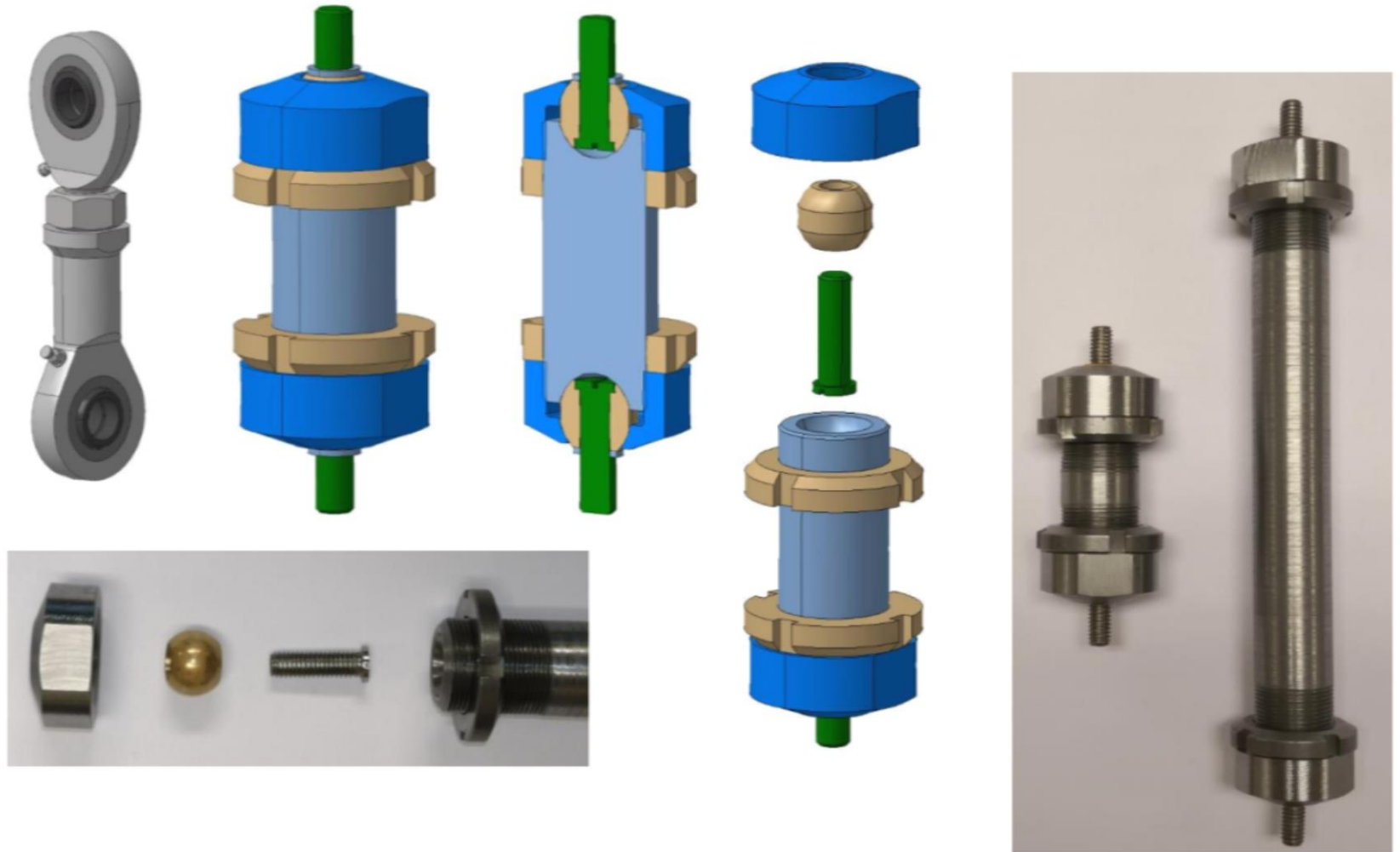


ANSYS Model



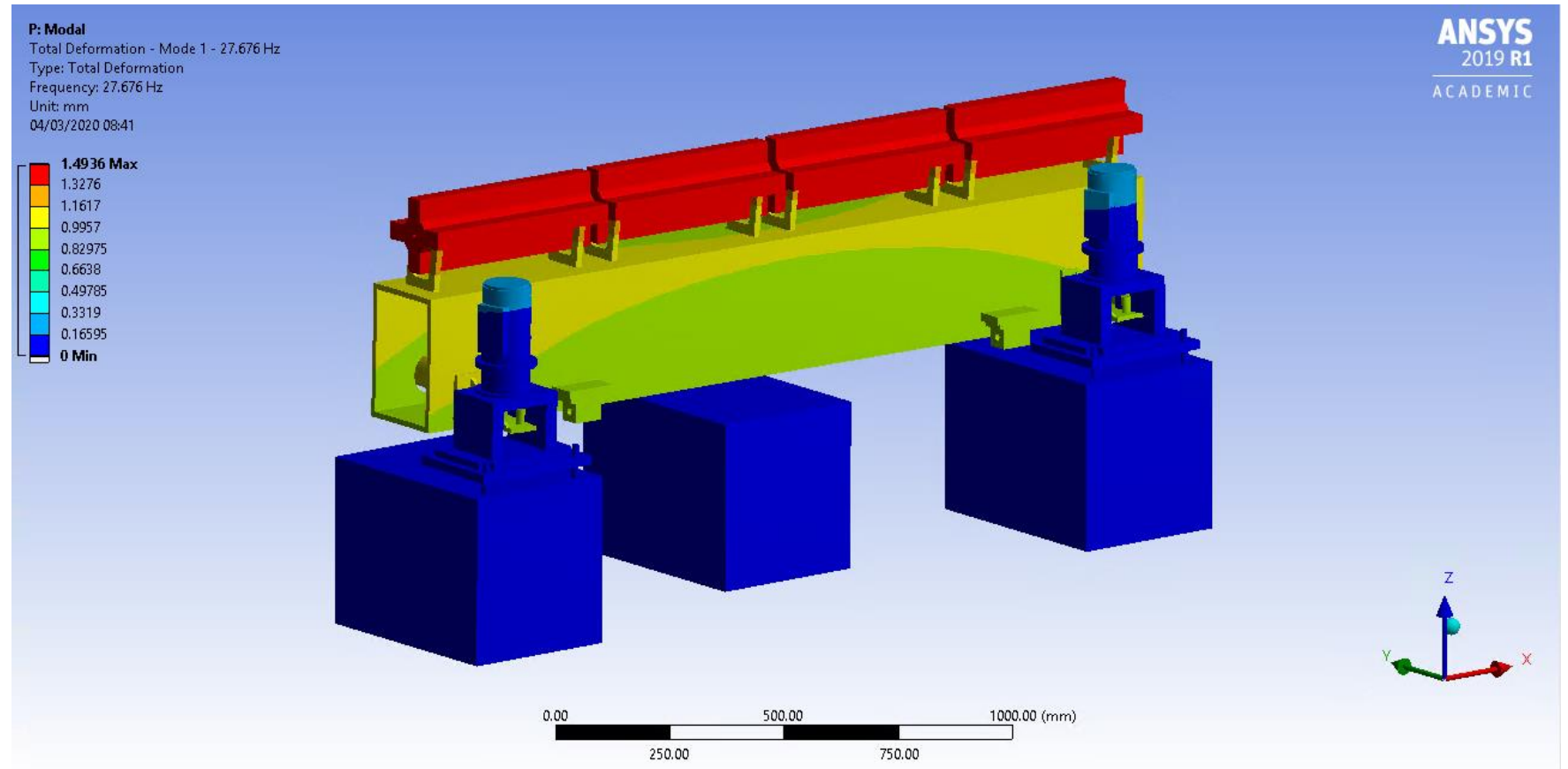
UAP zero-backlash joints

- Zero backlash, self lubricating (sintered bronze SELFOIL) based joints



V-Support Modal Frequencies

Mode	Frequency [Hz]
1	27.676
2	34.057
3	51.663
4	55.585
5	57.294
6	90.193



V-Support 2nd Mode

