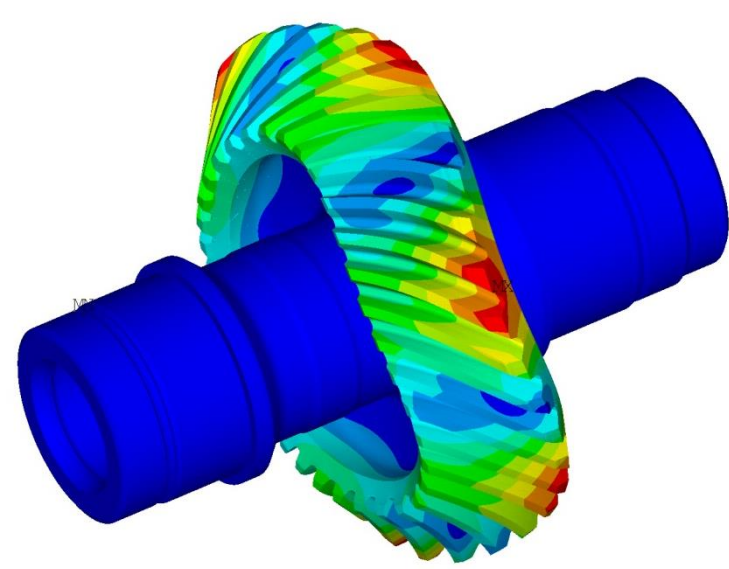
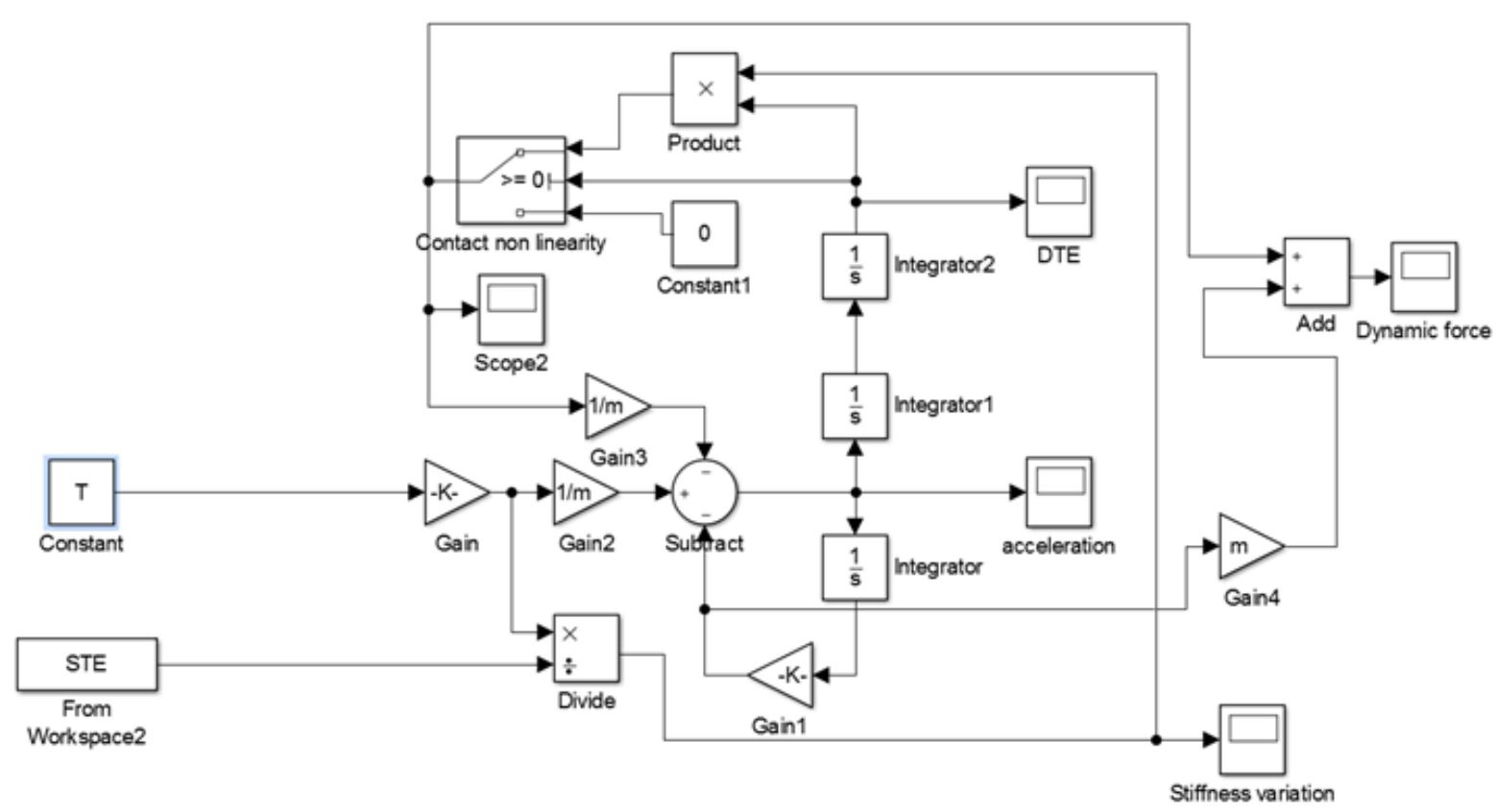
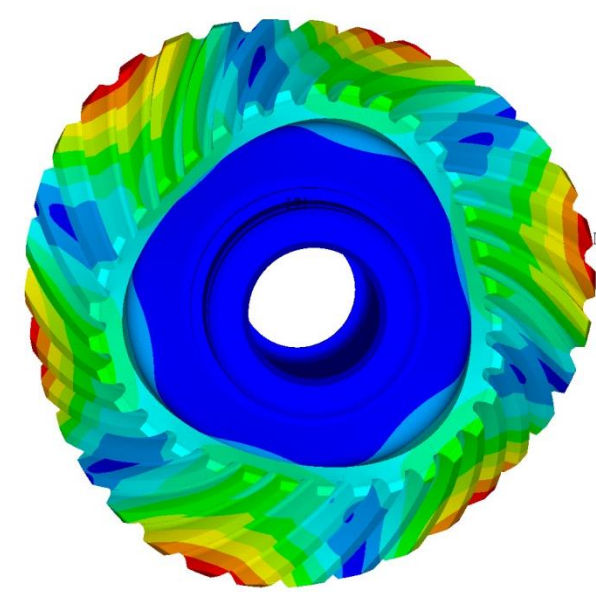
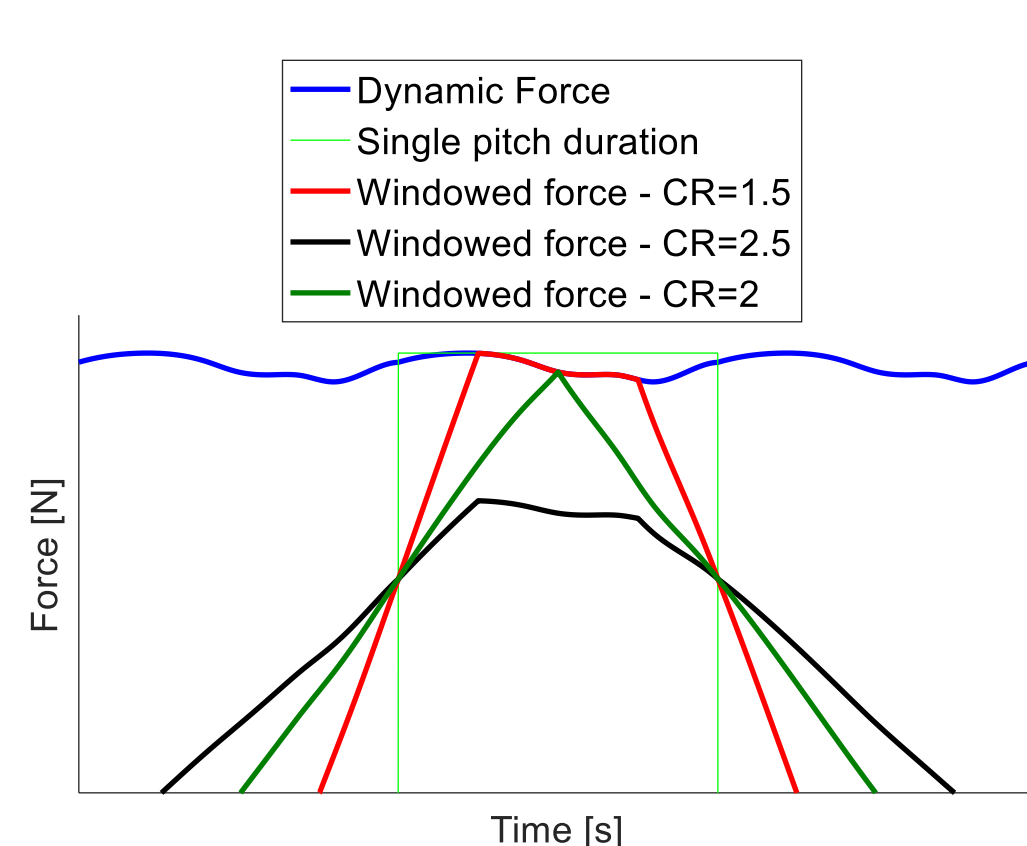


Gear response: Harmonic mesh force evaluation

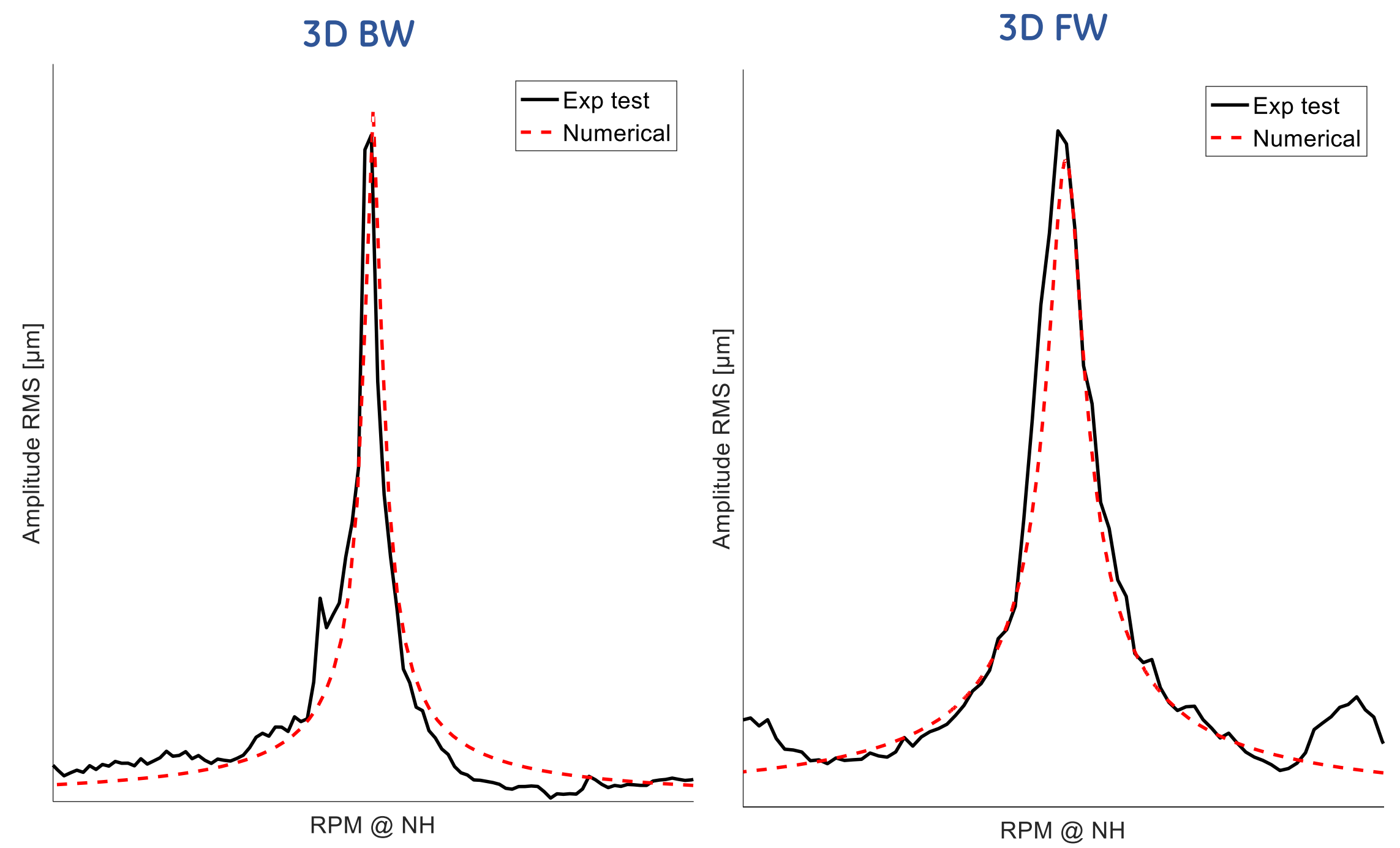
1D Dynamic model in Simulink



Harmonic component extraction

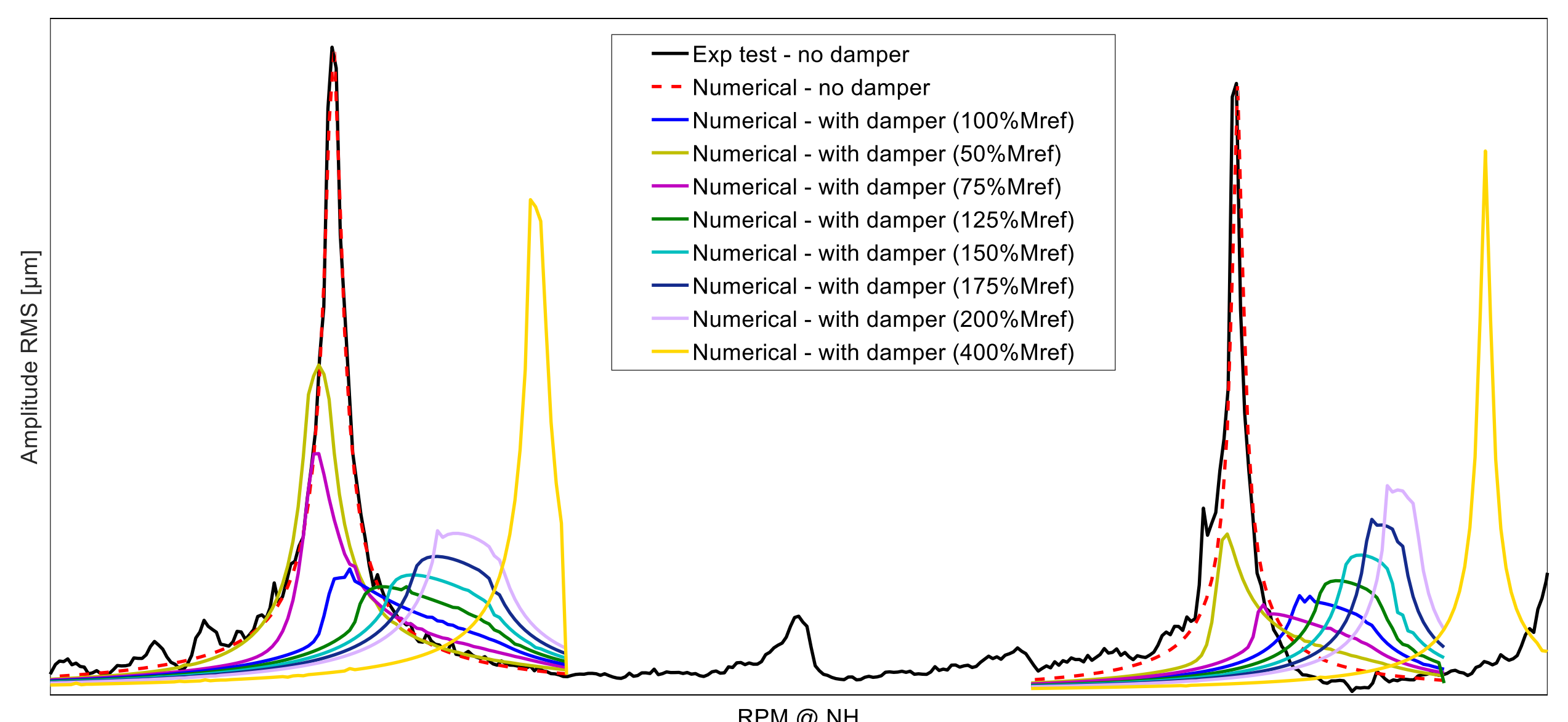
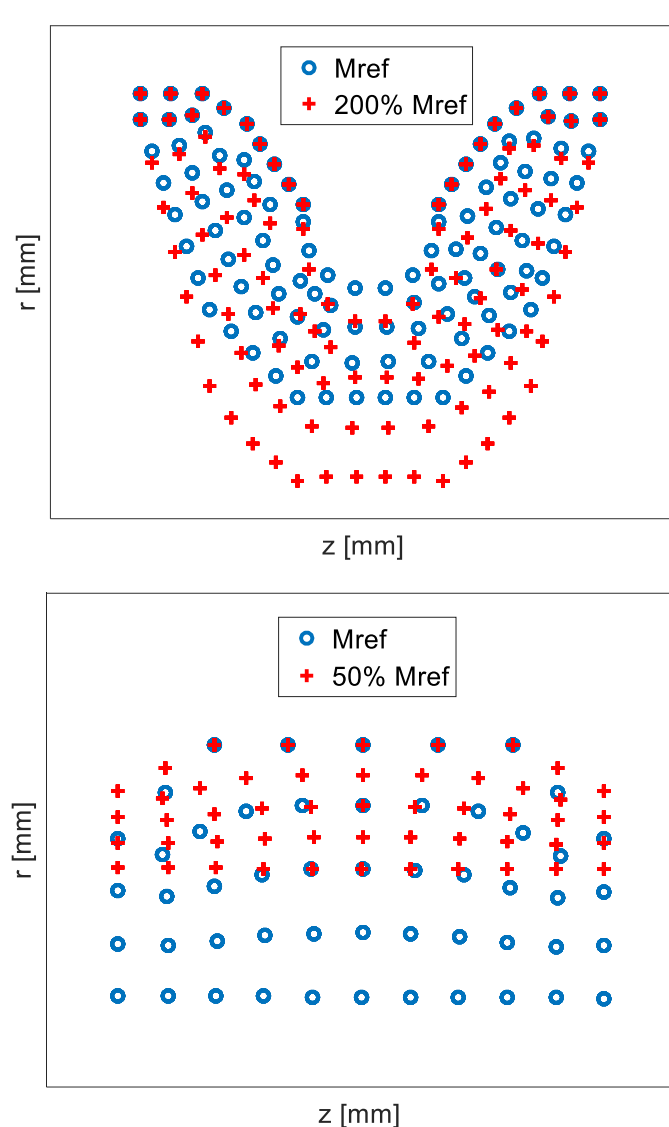
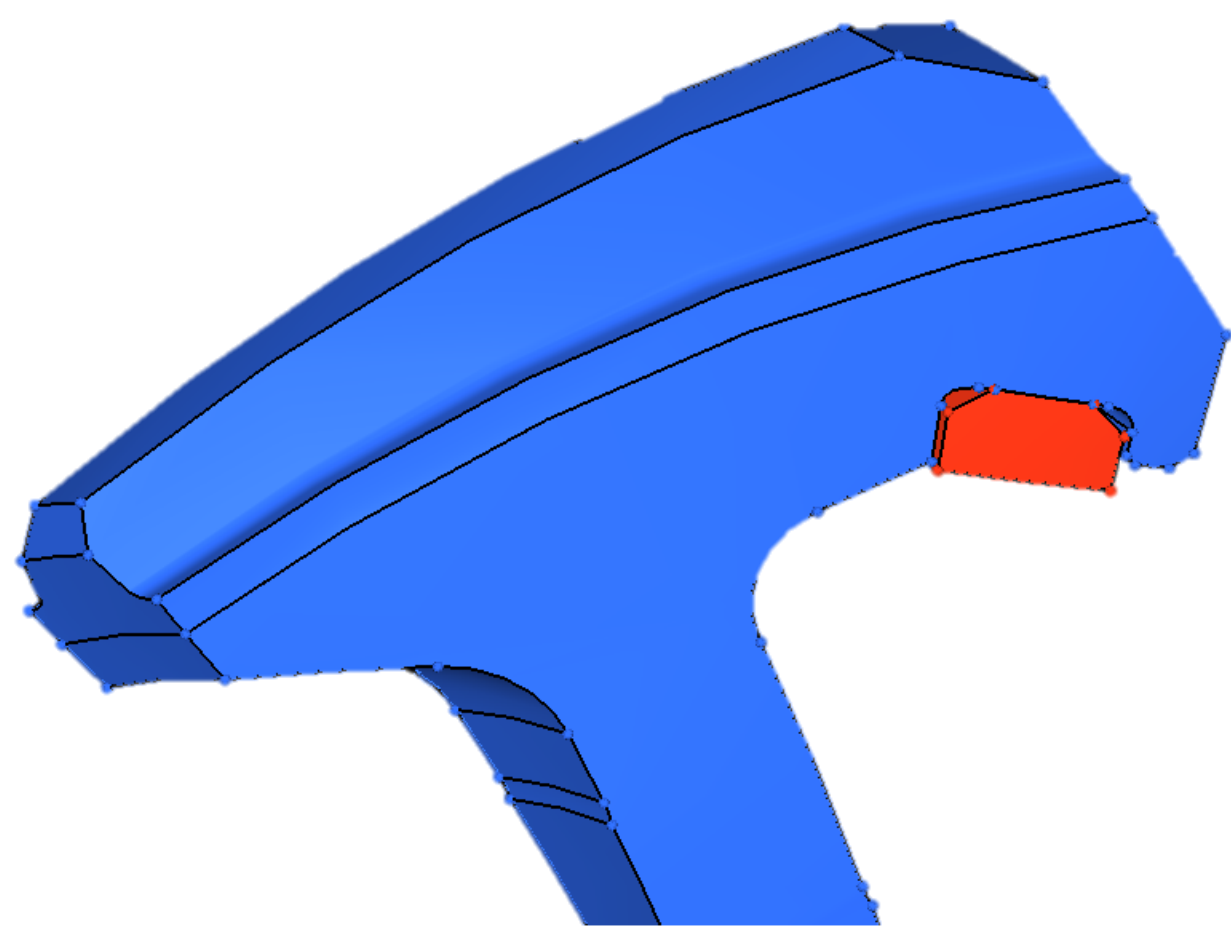


Forced frequency response on ROM (CB-CMS & Cyclic Symmetry)



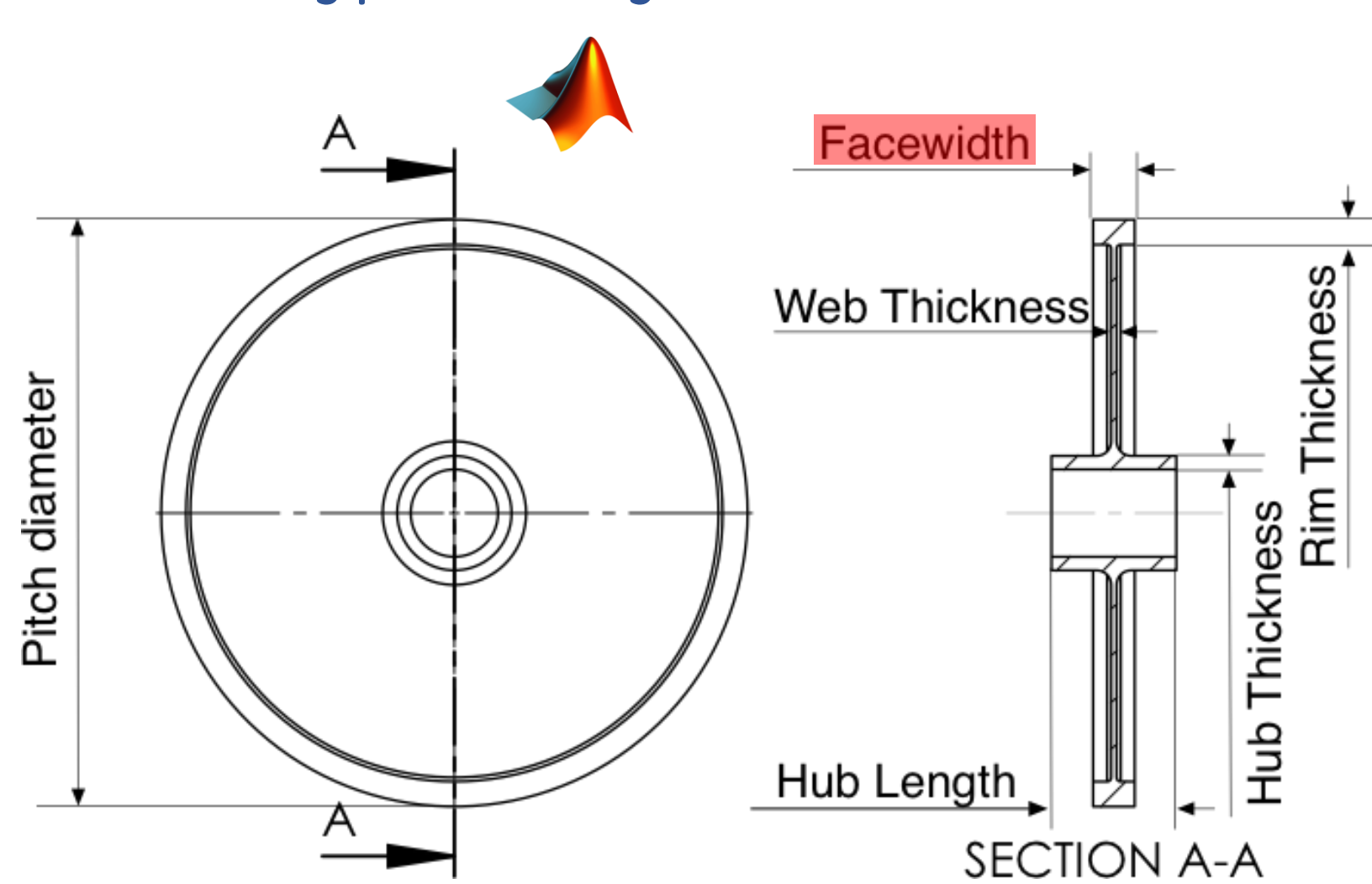
Gear response with damper rings: Nonlinear damped analysis

Parametric FE mesh stretching

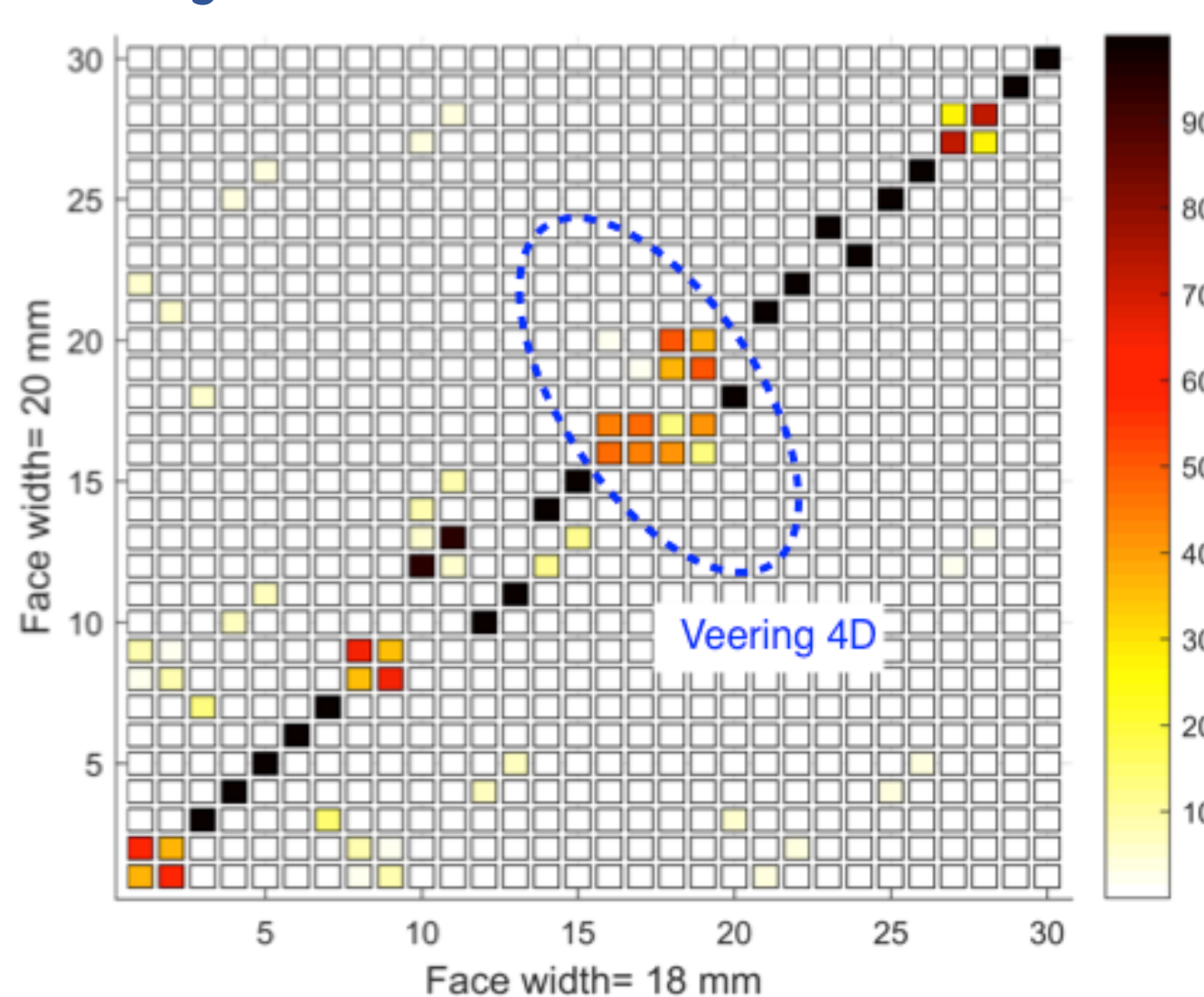


Gear response improvement by Design Optimization: Veering phenomenon

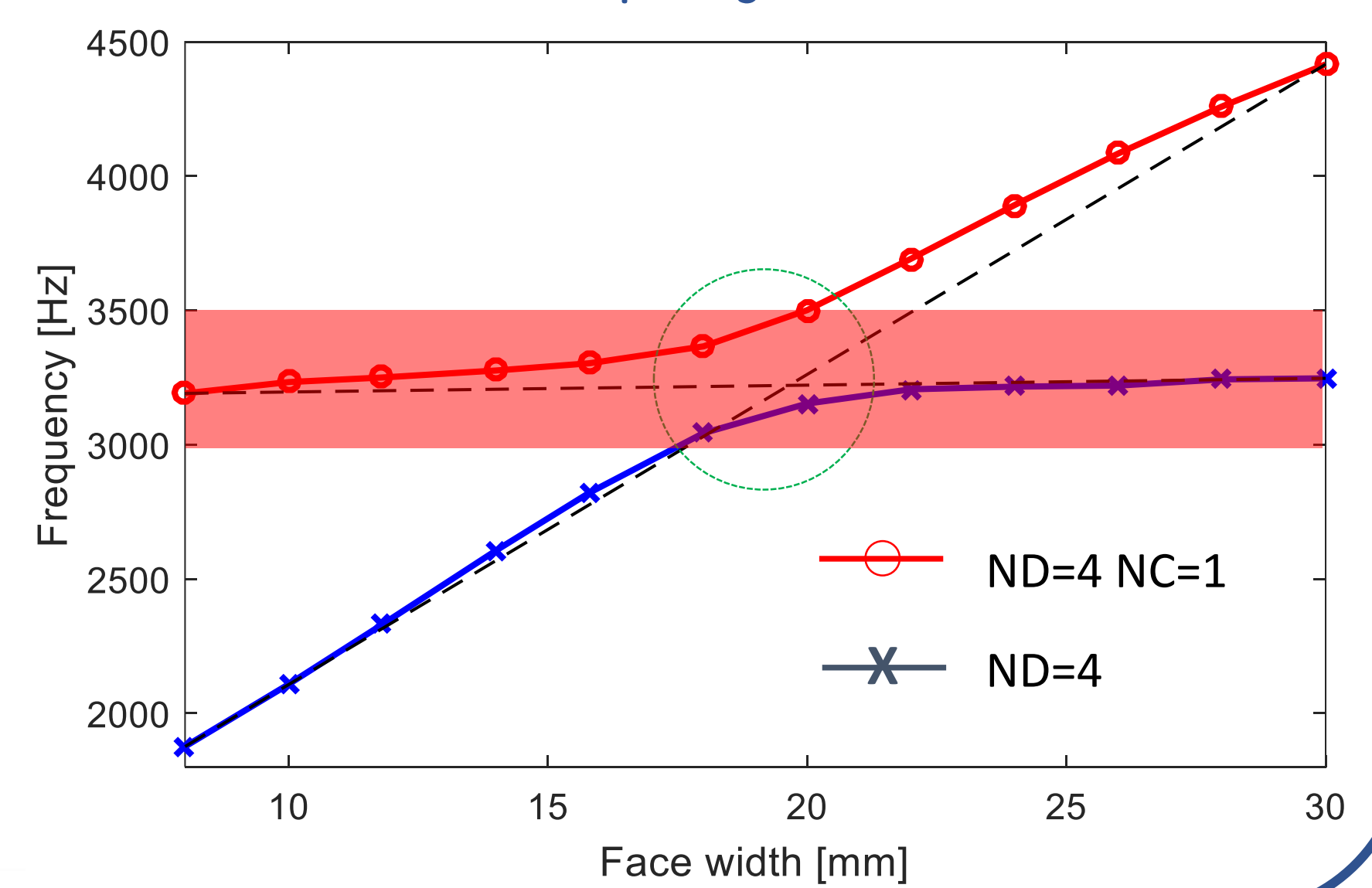
Fully parametric gear model



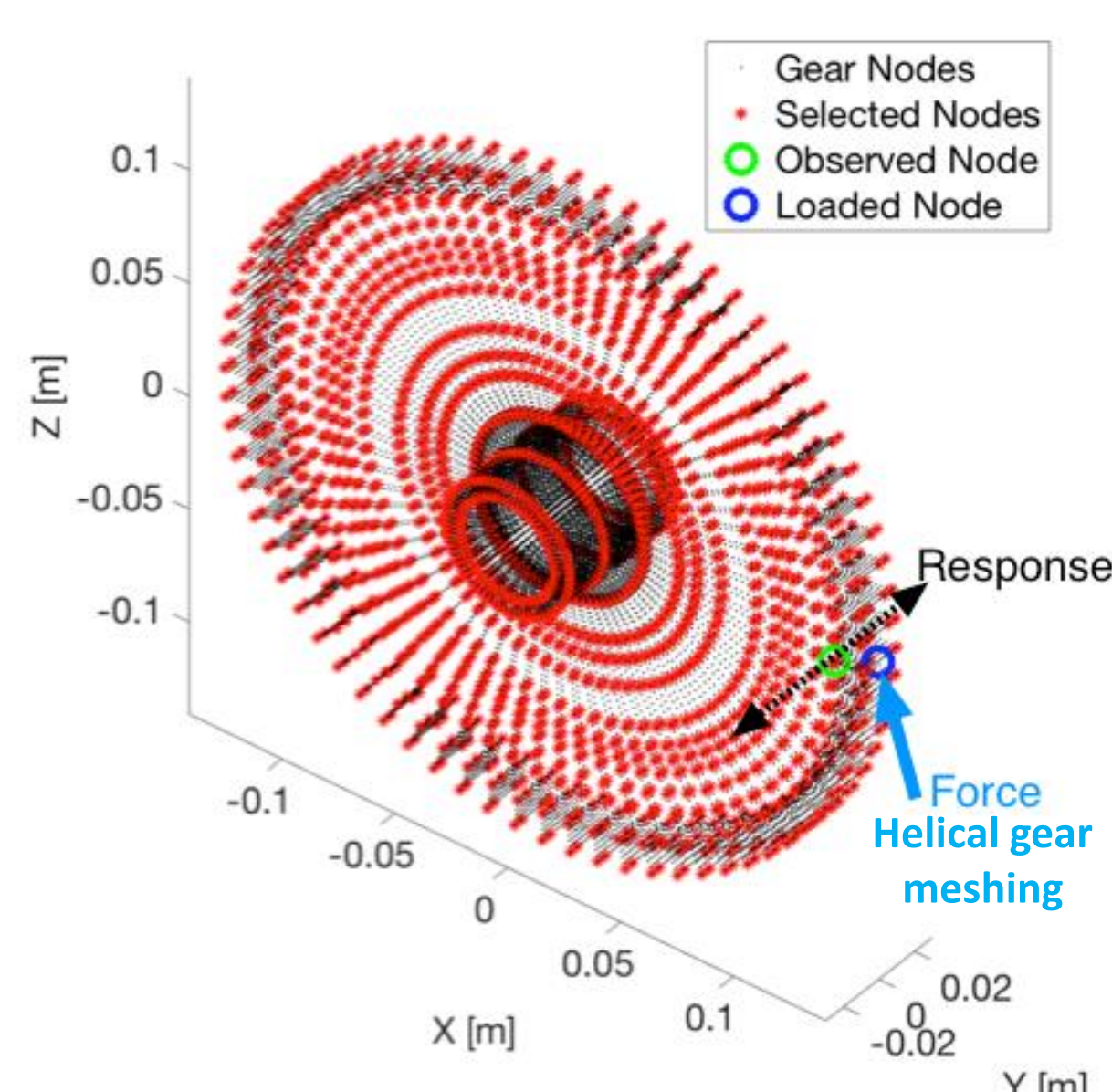
Veering occurrence: Modal Assurance Criterion



Mode frequency VS Facewidth



Inertance FRF



$$A_{j,k}(\omega) = \frac{\ddot{x}_j}{F_k} = \sum_{r=1}^N \frac{-\omega^2 \phi_j^{(r)} \phi_k^{(r)}}{\omega_r^2 + 2i\zeta_r \omega \omega_r - \omega^2}$$

Operative range:
3000÷3500 Hz

