

DESIGN OF DECOUPLING CONCEPTS TO REDUCE LOADS CAUSED BY CHISELING

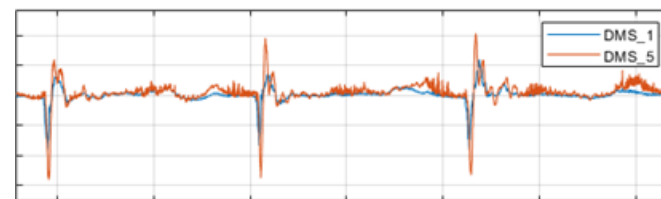
Problem Description

- During chiseling applications heavy mechanical loading of the hammering mechanism and the entire tool occur
- While axial forces are usually stretched by damping elements transverse forces act on the aluminum housing without damping
- Beside the bad influence on tool vibrations the high mechanical loading is a limitation for lightweight designs

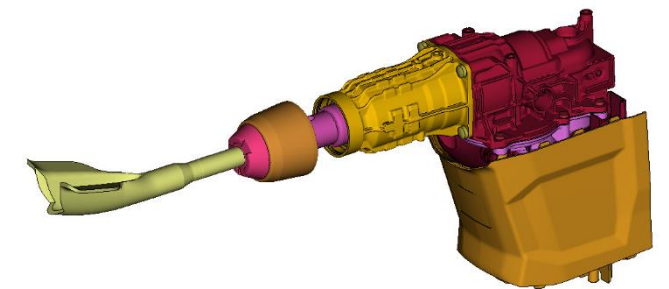


Objectives & Tasks

- Design of decoupling concepts to reduce loads of chiseling applications
- Run FE-simulations to evaluate the performance of the developed concepts and predict their fatigue life
- Work out requirements and limitations of the designs by optimization loops
- Investigations on possible drawbacks of the new designs



Strain measurements during chiseling



FE model of a combi