

For my master graduation assignment, the Precision Engineering and Elastomer Technology & Engineering group collaborate to investigate the influences of viscoelastic constraints in precision mechanisms.

A parallel leaf spring guidance is used as case study to investigate the sensitivity for misalignments and the dynamic performance of the over, exactly and viscoelastically constrained design. The rubbery state of customized solution-polymerized styrene-butadiene rubber is used to compensate for low frequent misalignments while high parasitic eigenfrequencies are increased due to additional stiffness of the elastomer for higher frequencies. Nonlinear flexible multibody analyses are corroborated by measurements.

Good results are obtained and will be presented at a conference (euspen) in Bilbao. The experience with the ETE group was great. Therefore, I would like to thank everyone involved in this project.

