

# Abstract

The dissertation document the design for the steering system of the 2016 final year project Fully Electric Track Day Car made at the CINEC campus.

This document presents research and analysis on the influence of front wheel steer geometry on steer maneuverability and stability. A mathematical model has been developed to quantify these effects. The model has likewise been utilized to foresee how basic geometry variables affect the result of steer stability.

It is demonstrated that the effect of steer on overall load transfer and stability are huge, particularly for high roll and speed stiffness vehicles, and that the effect might be utilized to control vehicle handling balance. The document likewise demonstrates that the resulting stability with maneuverability can be controlled by using a rack and pinion steering design and outlines how such a design may also be used to control track day with steer.

The connections between common design variables and the resulting steer effect have been determined .

