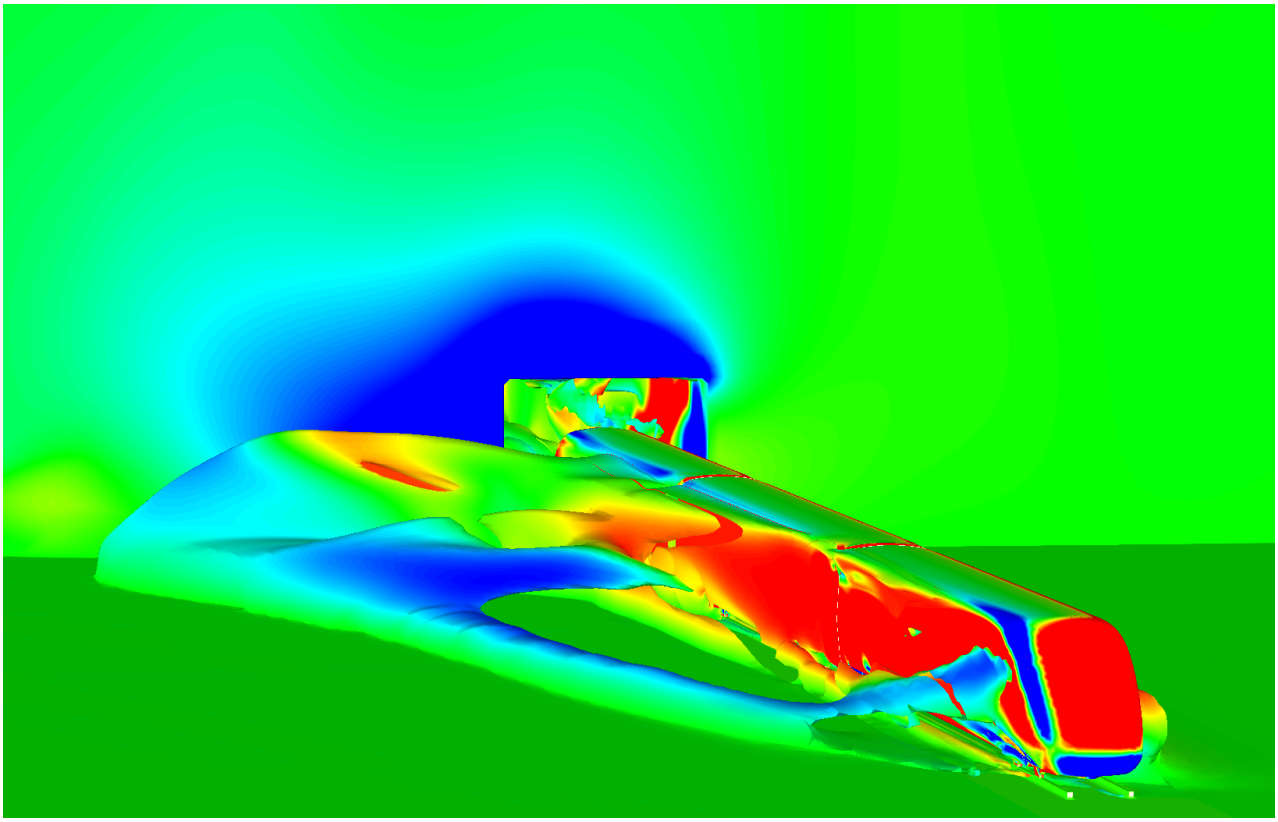

Active Steering Dolly for Long Combination Vehicles

Design of a Real-Time Control Interface for a steerable Dolly

Master's thesis in Automotive Engineering

SEBASTIAN FRANZ
MICHAEL HOFMANN

Department of Applied Mechanics
CHALMERS UNIVERSITY OF TECHNOLOGY
Göteborg, Sweden 2015

MASTER'S THESIS IN AUTOMOTIVE ENGINEERING

Active Steering Dolly for Long Combination Vehicles

Design of a Real-Time Control Interface for a steerable Dolly

SEBASTIAN FRANZ
MICHAEL HOFMANN

Department of Applied Mechanics
Division of Vehicle Dynamics
CHALMERS UNIVERSITY OF TECHNOLOGY

Göteborg, Sweden 2015

Active Steering Dolly for Long Combination Vehicles
Design of a Real-Time Control Interface for a steerable Dolly
SEBASTIAN FRANZ
MICHAEL HOFMANN

Master's thesis 2015:01
ISSN 1652-8557
Department of Applied Mechanics
Division of Vehicle Dynamics
Chalmers University of Technology
SE-412 96 Göteborg
Sweden
Telephone: +46 (0)31-772 1000

Cover:
Some explanation

Chalmers Reproservice
Göteborg, Sweden 2015

Active Steering Dolly for Long Combination Vehicles
Design of a Real-Time Control Interface for a steerable Dolly
Master's thesis in Automotive Engineering
SEBASTIAN FRANZ
MICHAEL HOFMANN
Department of Applied Mechanics
Division of Vehicle Dynamics
Chalmers University of Technology

Abstract

Keywords: Some stuff, More stuff, Stuff

Preface

Acknowledgements

Nomenclature

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Contents

1 Hardware Setup

1.1 Real-Time Environment

1.2 Interfaces with Dolly

1.3

2 Overview

2.1 Legal Situation

2.2 Ongoing research

2.3 Market overview for existing solutions

3 Introduction

3.1 Purpose

3.2 Limitations

4 Discussion

4.1 Results from bench testing

4.2 Results from in vehicle testing

4.3 Results from on-track testing

4.4 Comparrison

5 Conclusion

5.1 Recommendation

5.2 Future Work