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| Nota di contenuto | Cover; International Vehicle Aerodynamics Conference 2014; Copyright; CONTENTS; REAL WORLD CONDITIONS; Real world drag coefficient - is it wind averaged drag?; ABSTRACT; 1. INTRODUCTION; 2. NOTATION; 3. WIND TUNNEL TEST RESULTS; 4. WIND AVERAGED DRAG METHODS; 5. WIND AVERAGED DRAG RESULTS; 6. DISCUSSION; 7. CONCLUSIONS; ACKNOWLEDGEMENTS; REFERENCES; APPENDICES; Aerodynamic drag in a windy environment; ABSTRACT; 1 NOTATION; 2 INTRODUCTION; 3 SIMULATION; 4 RESULTS; 5 DISCUSSION; 6 CONCLUSIONS; 7 REFERENCE LIST Experimental investigation of aerodynamic effects during overtaking and passing maneuversABSTRACT; 1. INTRODUCTION; 2. EXPERIMENTAL SETUP; 3. EXPERIMENTAL RESULTS; 4. CONCLUSION AND FUTURE OUTLOOK; 5. ACKNOWLEDGMENTS; REFERENCES; Experiments on the influence of yaw on the aerodynamic behaviour of realistic car geometries; ABSTRACT; 1 INTRODUCTION; 2 EXPERIMENTAL SETUP; 3 RESULTS; CONCLUSIONS; REFERENCES; FLOW STRUCTURES; Investigation of three-dimensional flow separation patterns and surface |

pressure gradients on a notchback vehicle; ABSTRACT; NOTATION; 1. INTRODUCTION; 2. TOPOLOGICAL THEORY

3. METHODOLOGY4. RESULTS; 4.1. Flow topology; 4.1.1. Flow pattern around the antenna; 4.1.2. Flow pattern at the rear window; 4.2. Pressure distribution and gradients and their influence on limitingstreamlines; 5. CONCLUSION; REFERENCE LIST; Computational study of wake structure and base pressure on a generic SUV model; ABSTRACT; 1 INTRODUCTION; 2 EXPERIMENTAL DATA; 3 CFD PROCEDURE; 3.1 PowerFLOW; 4 RESULTS; 4.1 Steady State Solver; 5 CONCLUSIONS; ACKNOWLEDGMENTS; REFERENCE LIST; EXPERIMENTAL TECHNIQUES

Investigation of vehicle ride height and wheel position influence on the aerodynamic forces of ground vehiclesABSTRACT; 1 INTRODUCTION; 2 METHODOLOGY; 2.1 Experimental set-up; 2.2 Numerical set-up; 3 RESULTS AND DISCUSSIONS; 3.1 Tyre geometry change; 3.2 Vehicle body positioning change; 3.3 Aerodynamic forces; 4 CONCLUSIONS; 5 REFERENCE LIST; Effect of the traversing unit on the flow structures behind a passenger vehicle; 1 ABSTRACT; 2 INTRODUCTION; 3 METHODOLOGY; 3.1 The traversing unit; 3.2 The numerical setup; 4 RESULTS; 4.1 Simplified virtual wind tunnel

4.2 Traversing unit in the Volvo Cars Aerodynamic Wind Tunnel5 CONCLUSIONS; 6 REMARKS; 7 REFERENCE LIST; On the applicability of trapped vortices to ground vehicles; ABSTRACT; 1 INTRODUCTION AND MOTIVATION; 2 BRIEF HISTORICAL REVIEW; 3 APPLICATION OF TRAPPED VORTICES TO GROUND VEHICLES; 3.1 Application of trapped vortices to road cars; 3.2 Application of trapped vortices to racing cars; 3.3 Application of trapped vortices to truck trailers; 3.4 Application of trapped vortices to high speed trains; 4 CONCLUSIONS AND FUTURE WORK; REFERENCE LIST; CFD TECHNIQUES

Approach to an iteratively coupled thermal and aerodynamic design process for production cars

Sommario/riassunto

Aerodynamics has never been more central to the development of cars, commercial vehicles, motorbikes, trains and human powered vehicles, driven by the need for efficiency: reducing carbon dioxide emissions, reducing fuel consumption, increasing range and alleviating problems associated with traffic congestion. Reducing vehicle weight makes it more challenging to ensure that they are stable and handle well over a wide range of environmental conditions. Lighter structures are also more vulnerable to aerodynamically induced vibration. Alongside this, customers demand an environment that is qui