

Contents

Thermal Management

A Coupled Simulation Approach to Race Track Brake Cooling for a GT3 Race Car	3
Will Hunt, Adam Price, Sacha Jelic, Vianney Staelens and Muhammad Saif Ul-Hasnain	

A New Process to Evaluate the Risk of an Engine Power Drop Caused by Snow Particles	18
Christoph Huber, Heinrich Reister, Thomas Binner and Bernhard Weigand	

Cooling Air Flow

Introduction of a New Full-Scale Open Cooling Version of the DrivAer Generic Car Model	35
Burkhard Hupertz, Lothar Krüger, Karel Chalupa, Neil Lewington, Brendan Luneman, Pedro Costa, Timo Kuthada and Christopher Collin	

An Experimental Investigation into the Flow Mechanisms Around an SUV in Open and Closed Cooling Air Conditions	61
John Pitman and Adrian Gaylard	

Unsteady Flow

Evaluation of Unsteady Flow Phenomena Induced by the Tailgate Gap of a Production Car Using Simulations and Experiments	83
Georg Eitel-Amor, Sascha Riedl and Reiner Weidemann	
Characterisation of Wake Bi-stability for a Square-Back Geometry with Rotating Wheels	93
Giancarlo Pavia and Martin Passmore	

Investigation of Time-Resolved Nozzle Interference Effects	110
Christoph Schoenleber, T. Kuthada, Nils Widdecke, F. Wittmeier and J. Wiedemann	
New Vehicles	
Mercedes-AMG GTR: Aerodynamics for the Record	135
Gustavo Estrada	
The Aerodynamics Development of the New Land Rover Discovery 5	145
Sébastien Chaligné, Ross Turner and Adrian Gaylard	
The Aerodynamics Development of the New Volkswagen Polo	160
Carsten Repmann and Mathias Hähnel	
On-Road Tests	
Aerodynamic Development of a New Coach Generation Based on Wind Tunnel Testing, CFD-Simulation and On Road Tests	171
Marius Hellmold, Stephan Kopp, Andreas Liebing and Stephan Schönherr	
An Experimental Study of the Underbody Flow of a VW Golf VII Under On-Road and Wind-Tunnel Conditions	179
Johannes Haff, Sven Lange, Tarik Barth and Henning Wilhelmi	
Some Aspects on On-Road Aerodynamics	189
Thomas Schütz and Hannes Vollmer	
Aerodynamic Development	
On the Influence of Underhood Flow on External Aerodynamics of the DrivAer Model	201
Christopher Collin, Jörg Müller, Moni Islam and Thomas Indinger	
Potential of Porsche Reference Cars for Aerodynamic Development . . .	216
Francesca Cogotti, Michael Pfadenhauer and Thomas Wiegand	
Methodical Investigation of Vehicle Side Glass Soiling Phenomena . . .	238
Thomas Landwehr, Timo Kuthada and Jochen Wiedemann	
Design and First Test of the New Synchronous 200 Hz System for Unsteady Pressure Field Measurement	252
Jakub Filipský, Jan Čížek, Felix Wittmeier, Timo Kuthada and Simon Meier	
Author Index	265

<http://www.springer.com/978-3-319-67821-4>

Progress in Vehicle Aerodynamics and Thermal
Management

11th FKFS Conference, Stuttgart, September 26-27,
2017

Wiedemann, J. (Ed.)

2018, VIII, 266 p. 245 illus., Softcover

ISBN: 978-3-319-67821-4