

1. Record Nr.	UNINA9910483543103321
Autore	Zhang Chenyi
Titolo	Aerodynamic Study on the Vehicle Shape Parameters with Respect to Ground Simulation // by Chenyi Zhang
Pubbl/distr/stampa	Wiesbaden : , : Springer Fachmedien Wiesbaden : , : Imprint : Springer Vieweg, , 2021
ISBN	3-658-33439-8
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XXXII, 115 p. 85 illus., 10 illus. in color.)
Collana	Wissenschaftliche Reihe Fahrzeugtechnik Universität Stuttgart, , 2567-0352
Disciplina	629.2
Soggetti	Motor vehicles - Design and construction Computer simulation Automotive Engineering Computer Modelling
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Basic Theories and State of the Art -- Results of the DrivAer Model -- Statistical Analysis of the Parameters -- Transferability Study on the SUV Model.
Sommario/riassunto	Chenyi Zhang analyzes the influences of moving ground simulation technique in wind tunnel tests. In his work, the classical investigations on vehicle shape parameters with fixed ground conditions are reviewed with modern moving ground simulation technique. The investigations are performed by means of CFD simulations and model scale wind tunnel tests at IFS, University of Stuttgart. The shape parameters of two reference vehicles – the DrivAer and the AeroSUV model with notchback, fastback and estate back – are varied and investigated. The author presents different results in drag and lift for the varied geometry parameters. The classical results of the parametric study on the vehicle basic shapes for vehicle aerodynamics could be complemented with the findings of the present research. Contents Basic Theories and State of the Art Results of the DrivAer Model Statistical Analysis of the Parameters Transferability Study on the SUV Model Target Groups Researchers and students of mechanical engineering, especially automotive engineering Research and

development engineers in the fields of aerodynamics, vehicle layout design and wind tunnel technology About the Author Chenyi Zhang did his PhD project in the field of vehicle aerodynamics and thermal management at the Institute of Automotive Engineering (IFS) at University of Stuttgart. He works as an engineer in driving resistance testing for a renowned German automobile manufacturer.
