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New Developments and Researches in Several Aspects of Ground Vehicle Aerodynamics: Aerodynamic Optimization, Wind Noise and Thermal Management

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Message from the Guest Editor

With the increased volume of ground transportation, the study of vehicle aerodynamics gained momentum to improve the vehicle performance, comfort, and environmental signature of the related industry. The first and most logical focus was on reducing the air resistance (drag) of ground vehicles, such as passenger cars, trucks, or even trains, which lead to improved fuel economy and reduced air pollution. However, passenger comfort, due to wind noise, buffeting or flow separation (as in convertible cars) also received increased notice, mainly from the vehicle manufacturer perspective. In recent years, developments in computer-aided design (CAD) and in computational fluid dynamics (CFD) provided an additional tool for estimating and understanding the sources of aerodynamic loads on a large variety of vehicles. One of the most intriguing developments in recent years is the combination of CAD and CFD with optimization methods, to automate the process of vehicle shape development.



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Special Issue



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Message from the Editor-in-Chief

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