Special Issue

Advances in Homogeneous Charge Compression Ignition Engines and Alternative Fuels

Message from the Guest Editors

At present, a great deal of emphasis is placed on the problem of fuel consumption and the toxicity of exhaust gases, especially of engines used in transport. Numerous studies point to the need to change the organization of the combustion process in relation to the classic one, or to use fuels with a lower carbon content (alternative). To meet this need, the use of homogeneous charge compression ignition (HCCI) engines is often proposed. In spite of the very complex combustion phenomenon, satisfactory results can be obtained by proper control of the process. On the other hand, the use of alternative fuels is able to reduce the engine's emissions with comparable external ratings. With certain limitations, an HCCI engine can be fueled with alternative fuels or used as an admixture to the base fuel. Important aspects besides engine emissions, external indicators and fuel consumption are the mechanical processes to be subjected to strength or tribological assessment.

Guest Editors

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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