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INFLUENCE DIMENSIONS ON RESPONSE OF A COMPRESSION-IGNITION ENGINE WITH ZERO DIMENSIONAL THERMODYNAMIC MODEL

Authors

Damien DESCIEUX[1], Michel FEIDT[1],
[1]Laboratoire d'Energétique et de Mécanique Théorique et Appliquée, France

Abstract

The thermodynamic performance of an air standard diesel engine with heat transfer and friction term losses is analysed. In this paper a generic methodology is proposed to simulate the static response of a CI engine and show the influence of several engine parameters on the power and efficiency. Moreover it puts in evidence the existence of two optimal engine speeds one relative to maximum power and the second to maximum efficiency.

Keywords

Zero dimensional thermodynamic model, Compression Ignition engine, heat transfer, friction, performance optimization.