

Diagnosics technological process modeling for internal combustion engines

Galiullin L., Valiev R.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2017 IEEE. In the modern world the problems of the fuel and energy resources' optimization consumption belong to challenging issues. Transport consumes more than 30% of the produced hydrocarbons, and the fuel costs account for about 20% of the product cost. More highly charged is the environmental contamination, and more than half of the emissions can be attributed to internal combustion engines (ICE). Production of the internal combustion engines is enhanced towards improving the engine's environmental, economic and operational parameters. This involves the use of electronic control units - ignition control and fuel injection systems. It allows one to greatly reduce the ICE energy consumption and emission toxicity. During the vehicle operation corresponding units and knots always wear and age. This leads to deterioration of vehicle economic, environmental and effective parameters. Therefore, in order to maintain the ICE in the optimum condition and to detect any early changes in the parameters that lead to deterioration of the operation environmental, economic and effective parameters, the key aspect includes the maintenance and repair system, its scientific validity and perfection. In such a situation the technical diagnostics is of a paramount importance.

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Keywords

automatization, engine, fuzzy, network, neural, system, tests

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