

Indicated Mean Effective Pressure Oscillations in a Natural Gas Combustion Engine

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Fluctuations in a combustion process of natural gas in the internal spark ignition engine have been investigated. We measured pressure of the cyclic combustion and expressed its cyclic oscillations in terms of indicated mean effective pressure per cycle. By applying the statistical and multifractal analysis to the corresponding time series we show the considerable changes in engine dynamics for a different equivalence ratio decreases from 0.781 to very lean conditions.

Key words: Engine; Combustion; Nonlinear Oscillations; Multifractals.

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