The improvement in the methods for estimating the nature of the working process of an internal combusting

S A Plotnikov, S V Buzikov, Y V Lanskikh, A N Kartashevich
Problem statement

• Development of a high-speed computer program for calculating the heat release of an internal combustion engine
• Analysis of available methods and techniques for determining the heat release indicators of internal combustion engines
• Development of an algorithm and program for calculating the characteristics of heat release using experimental indicator diagrams
• Evaluation of the quality of calculations obtained by software
Solution methods

• The existing technique of CRDI(CNIDI) for processing indicator diagrams
Conclusions

Results, implementation

- As a result of a review of methods for calculating heat release indicators, it was revealed that the use of the method for processing experimental indicator diagrams is one of the most reliable describing the processes occurring in diesel cylinders.

- The analysis of theoretical basic of fuel combustion process by means of experimental indicator diagrams is conducted; taking into account imprecision in source data is considered; the ways of correcting these data are proved.

- Applying the developed program for analysis indicator diagrams provides the desired quality of results investigating the influence of various factors on the fuel combustion process in an engine.
Contacts

Sergey Plotnikov, Shamil Buzikov, Yury Lanskikh, Anatoly Kartashevich
FSBEI of HE “Vyatka State University”
E-mail: lyuv@inbox.ru