

COMBUSTION AND EXPLOSION [GORENIE I VZRYV (MOSKVA)]

Vol. 12 No. 4 Year 2019

Editor-in-Chief S. M. Frolov

In this issue:

The influence of hydrogen on the burning velocity of methane–air mixtures at elevated temperatures A. V. Arutyunov, A. A. Belyaev, I. N. Inovenkov, and V. S. Arutyunov	4
Evaluation of the effectiveness of hydrogen bromide influence on the laminar burning velocity of methane and hydrogen in oxidizing media based on oxygen and nitrous oxide A. Yu. Shebeko, Yu. N. Shebeko, and A. V. Zuban	11
Chemical ionization by oxidation of <i>n</i> -hexane and dimethyl ketone in reflected shock waves P. A. Vlasov, O. B. Ryabikov, V. N. Smirnov, D. I. Mikhailov, and Yu. P. Petrov	20
Detailed kinetic modeling of soot formation: Comparison of the results of calculations by the method of moments, sectional method, and discrete Galerkin method G. L. Agafonov, P. A. Vlasov, O. B. Ryabikov, and V. N. Smirnov	33
Application of flammability diagram for planning of low-NO _x fuel gas combustion mode V. T. Sidorkin, A. N. Tugov, and K. G. Bersenev	54
Measurement of the heats of combustion of natural combustible gases in the combustion bomb calorimeter A. V. Inozemtsev, J. O. Inozemtsev, Yu. N. Matyushin, and A. B. Vorob'ev	61
Errors of measurement of the calorific value of combustible gases in a bomb calorimeter A. V. Inozemtsev, J. O. Inozemtsev, Yu. N. Matyushin, and A. B. Vorob'ev	66
Combustion of the fuel–air mixture in the cavity under the boat bottom: Experiment and simulation S. M. Frolov, S. V. Platonov, K. A. Avdeev, V. S. Aksenov, V. S. Ivanov, A. E. Zangiev, I. A. Sadykov, R. R. Tukhvatullina, F. S. Frolov, and I. O. Shamshin	73
Afterburner operating on continuous detonative combustion S. M. Frolov, V. S. Ivanov, I. O. Shamshin, V. S. Aksenov, M. Yu. Vovk, I. V. Mokrynskiy, V. A. Bruskov, D. V. Igonkin, S. N. Moskvitin, A. A. Illarionov, and E. Yu. Marchukov	88
Generation of highly superheated steam by pulsed detonation of the ternary gas “propane–oxygen–steam” mixture S. M. Frolov, V. A. Smetanyuk, I. O. Shamshin, A. S. Koval', F. S. Frolov, and S. A. Nabatnikov	95
Kinetic model and calculation of self-ignition of triethyl aluminum microdroplets in air N. M. Kuznetsov, V. Ya. Basevich, A. A. Belyaev, S. M. Frolov, and P. A. Storozhenko	104
Effect of 1,1'-ferrocenedicarboxylic acid salts on the burning rate of double-base propellant A. P. Denisjuk, V. A. Sizov, and A. G. Khina	111
Experimental study of the dependence of the burning rate of homogeneous energetic materials on the burning surface curvature S. A. Rashkovskiy, V. G. Krupkin, and V. N. Marshakov	117
Thermoelectric energy conversion in devices of closed type V. M. Shmelev and V. G. Krupkin	127
Ballistic similarity for gun shots with the traveling charge B. S. Ermolaev, A. V. Roman'kov, and A. A. Sulimov	138
Initial reactions of gas-phase thermolysis of bicyclooctogen from highly accurate quantum chemical calculations I. N. Melnikov, N. V. Muravyev, A. N. Pivkina, and V. G. Kiselev	145