

COMBUSTION AND EXPLOSION

[GORENIE I VZRYV (MOSKVA)]

Vol. 15 No. 4 Year 2022

Editor-in-Chief S. M. Frolov

In this issue:

COVID-19 spread simulation model V. F. Martynyuk	3
Investigation of the influence of parameters of oxygen–hydrogen and oxygen–methane mixtures on the possibility of laser ignition S. G. Rebrov, V. A. Golubev, A. N. Golikov, and A. E. Morgunov	10
Investigation of the mechanism of the negative temperature dependence of the reaction rate of partial oxidation of methane A. A. Belyaev, A. V. Arutyunov, and V. S. Arutyunov	19
Spherical diffusion flames: Soot formation S. M. Frolov, V. S. Ivanov, F. S. Frolov, and P. A. Vlasov	30
Experience in validation of turbulent combustion models of the PaSR class and plans for the development of these models in relation to the combustion chambers of gas turbine units R. A. Balabanov, V. V. Vlasenko, and A. A. Shiryayeva	48
Experimental studies of supersonic flow deceleration in axisymmetric channels A. Yu. Melnikov	58
Initial stage of the operation process in a rotating detonation engine I. O. Shamshin, V. S. Ivanov, V. S. Aksenov, P. A. Gusev, and S. M. Frolov	67
Realization of continuously rotating detonation for syngas–air mixtures A. V. Trotsyuk	79
Laser initiation of energetic materials I. G. Assovskiy, D. B. Dmitrienko, G. P. Kuznetsov, G. V. Melik-Gaikazov, and V. P. Sinditskii	87
Migration of plasticizer from composite energetic material into polymer coating A. G. Knyazeva, A. A. Koptelov, I. A. Koptelov, and Yu. M. Milekhin	94
Empirical equations for evaluating TNT-equivalent of underwater explosion M. N. Makhov	105
Thermodynamic properties of triethylaluminum isomers A. A. Kroupnov and M. Ju. Pogosbekian	112
Calculation and physical experiments to determine the melting time of particles in a bubbled melt A. A. Chaymelov and K. V. Strogonov	123