Subsection: Physical Chemistry of High Temperatures.

Registration Code of Publication: 12-32-13-95

Publication is available for discussion in the framework of the on-line Internet conference "Butlerov readings". http://butlerov.com/readings/

Contributed: December 1, 2012.

Experimental research of biologically transformed deciduous species litterfall ignition by heated-up particle

© Arkady V. Zakharevich, Nikolay V. Baranovskiy, ** and Pavel A. Strizhak*

Department of Theoretical and Industrial Heat Systems Engineering. TPU.

Laboratory of heat and mass transfer processes modeling. TPU.

Lenin St., 30. Tomsk, 634050. Russia.

Phone: +7 (3822)56-36-13. E-mail: firedanger@narod.ru

*Supervising author; *Corresponding author

Keywords: ignition, particle heated-up to high temperatures, biologically transformed leaves, deciduous species, ignition delay time.

Abstract

The experimental research of ignition processes of forest fuel by heated-up particle has been conducted. As an object of research we used biologically transformed leaves of deciduous species (birch leaves). The ignition source was modeled by a single heated-up to high temperatures particle of metal. Ignition delay times from particle initial temperature were obtained. The physical mechanism of ignition of biologically transformed leaves of deciduous species is formulated.