

عنوان مقاله:

D Modeling of Heat and Mass Transfer during Combustion of Solid Fuel in Bkz-۴۲۰-۱۴۰-۷C Combustion Chamber of-۳
Kazakhstan

محل انتشار:

دوماهنامه مکانیک سیالات کاربردی، دوره 9، شماره 2 (سال: 1395)

تعداد صفحات اصل مقاله: 11

نویسندگان:

A. Askarova - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

A. Bekmukhamet - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

S. Bolegenova - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

S. Ospanova - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

B. Symbat - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

V. Maximov - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

M. Beketayeva - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

A. Ergalieva - *Thermal and Technical Physics Department, Al-Farabi Kazakh National University, Almaty ۰۵۰۰۳۸, Kazakhstan*

خلاصه مقاله:

In this paper the results obtained by the numerical method of modeling of Ekibastuz coal burning in BKZ-۴۲۰ combustion chamber of Kazakhstan Power Plant are presented. They are devoted to the numerical simulation of combustion processes in the furnace boiler BKZ-۴۲۰. Boiler's steam generates capacity equal ۴۲۰ T/h. Boiler has six vertical pulverized coal burners arranged in two levels with three burners on the front wall of the boiler. High ash, low-grade coal from Ekibastuz burned in the furnace. Its ash content is ۴۰%, volatile – ۲۴%, humidity–۵%, highest calorific value is ۱۶۷۵۰ kJ/kg. Milling dispersity of coal was equal to $R_{90} = ۱۵\%$. It was shown in this research that the most intense burning is observed in the central part of the chamber where the flow temperature reaches about ۹۸۰ °C and it is seen that the temperature reaches a peak in the cross sections of the burners location. The combustion reaction there occurs more intensively.

کلمات کلیدی:

BKZ, ۴۲۰, Pulverized coal, combustion, Two-phase flow, Ekibastuz coal, Heat and mass transfer, Modeling, Turbulence

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1384875>

