

Heat and mass transfer in the interaction of the dispersed burning phlegmatizer with high-temperature combustion products

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Abstract

Numerical research has been carried out on heat and mass transfer macroscopical regularities at the movement of the typical burning dispersed phlegmatizer – drops of water mist through the high-temperature mix of combustion products. The scale effect on the integral characteristics of heat and mass transfer position drops as related to each other, the resistance forces, surface tension, attraction, repulsion, and gravity, as well as the effects of the Dufour and Soret have been established. Comparison of drops evaporation times, temperature fields and water steam concentration for a single drop and set of drops was performed.