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PECULIARITIES OF PHASE PROCESSES IN THE VOLUME OF LIQUID

CECHY SZCZEGÓLNE PROCESÓW FAZOWYCH W DUŻEJ OBJĘTOŚCI CIECZY

DOI: 10.30540/sae-2018-006

Abstract

The work is devoted to the study of the transient processes of heat and mass transfer in the volume of a liquid. The method of calculating the temperature field in a liquid takes into account phase transitions, motion of the bubble wall and heat exchange processes near its surface. The method takes into account the change in the thermophysical characteristics of a liquid when its temperature changes. The results of the research can be used to optimize the various technological processes associated with cavitation, boiling and the formation of gas hydrates.

Streszczenie

Artykuł dotyczy analizy nieustalonych zjawisk wymiany ciepła i masy w dużej objętości cieczy. Metoda określenia pola tem-peratur w cieczy uwzględnia przemiany fazowe, ruch pęcherzy i procesy wymiany ciepła przy ścianie. Metoda ta bierze pod uwagę zmianę właściwości termofizycznych cieczy, gdy zmienia się jej temperatura. Wyniki badań mogą być wykorzystane do optymalizacji różnych procesów technologicznych związanych z kawitacją, wrzeniem i tworzeniem hydratów gazowych.

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