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Qualitative analysis of the equations of motion of a particle in a rotating liquid

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Abstract

The movement of a particle of disperse phase in a flow of rotating liquid phase was analyzed. Two characteristic sections, namely steady-state and non-steady-state sections, were identified. It was found that there is no principle distinctions between the movement of a particle in the gravity field or in the field of centrifugal force. Thus, the use of the two sections detected in engineering calculations of hydrodynamic or mass-exchange processes substantially facilitates the calculations and is physically justified.