Criteria analysis of the equations of hydrodynamics for the processes of thin-layer separation

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Abstract

The general equations of motion of a monodisperse, two-phase medium in the zone of intertray spacing of a separator are analysed by the methods of similarity theory. Characteristic scales and similarity criteria are determined; the order of importance for the equation terms are estimated; the qualitative picture of the flow is established; and the simplified mathematical model of the processes of mixture separation are formulated in the boundary-layer approximation.