

## Justification of Local Expenditure Characteristics of Vibrotransporting Devices in Design Modeling of Continuous Vibroextractors

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Extensive industrial implementation and practical provision of conditions for optimal vibroextraction process, which is based on a new method of countercurrent phase separation and creation of a regime of intensive alternating turbulence of the workflow by pulsating jets, is constrained by the complexity and insufficient study of expenditure characteristics of vibrotransporting devices required for modeling and design of this type apparatuses. For this purpose, the article describes the regularity of pulsating jets propagation generated by transport elements, the dependence of the vibroextractor productivity on the solid phase, and the level of longitudinal mixing by the longitudinal mixing coefficient from determining relative geometric parameters. The mathematical description can be taken as a basis for optimizing problems for the definition of rational operating modes of the vibroextractors having the combined structure of hydrodynamic flows and providing necessary productivity with the minimum effect of longitudinal mixing.

**Keywords:** Vibroextraction, Intensification, Hyrodynamics, Pulsating Flow, Mass Transfer, Longitudinal Mixing, Velocity of Flows, Mathematical Model.

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