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INSTABILITY OF TWO ROTATING VISCOELASTIC (WALTERS B') SUPERPOSED FLUIDS WITH SUSPENDED PARTICLES IN POROUS MEDIUM

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ABSTRACT

The instability of the plane interface between two Walters B/ viscoelastic superposed fluids permeated with suspended particles and uniform rotation in porous medium is considered following the linearized perturbation theory and normal mode analysis. For the stable configuration the system is found to be stable or unstable if , depending on kinematic viscoelasticity, permeability of the medium and porosity of the medium. However, the system is found to be unstable for the potentially unstable configuration.

KEYWORDS

Rayleigh-Taylor instability, Walters B viscoelastic fluid, suspended particles, uniform rotation, porous medium

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