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Weak waves in multifractional liquids with bubbles

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Abstract

The propagation of weak waves in multifractional mixtures of liquid with vapor-gas and gas bubbles of different sizes and different compositions with phase transitions is studied. The dispersed phase consists of N+M fractions having various gases in bubbles and different in the bubbles radii. Phase transitions accounted for N fractions. The total bubble volume concentration is small (less than 1%). The dispersion relation is derived and dispersion curves is built. Influence of the mass concentration is shown. It is shown that dispersion and dissipation of acoustic waves depends significantly on presence of different bubbles in fractions of the dispersed phase.

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