

**Stability of Stratified Shear Flows with a Monotonic Velocity Profile without Inflection Points****Semen M. Churilov***Institute of Solar-Terrestrial Physics, Irkutsk, Russia*

In the two-layer model of a stably stratified medium we investigate the stability of flows without inflection points on the velocity profile, which monotonically increases from zero at the bottom ( $y = 0$ ) to the maximum value of  $U_0$  (when  $y \rightarrow \infty$ ). It is shown that in general, instability sets in at an arbitrarily small density difference, and perturbations of all scales grow simultaneously. With an enhancement of the stratification, the real part  $c_r$  of the phase velocity of unstable perturbation increases. The upper boundary of the instability region is determined by the fact that  $c_r$  reaches  $U_0$ , the perturbation becomes out of the phase resonance with the flow and transforms to a neutral oscillation of the medium. An analysis is made of the role of the neutral modes associated with null-curvature points on the velocity profile in the formation of the instability region configuration.

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