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Stability of algebraically unstable dispersive flows KRISTINA KING, PAULA ZARETZKY, STEVEN WEINSTEIN, MICHAEL CROMER, NATHANIEL BARLOW, Rochester Institute of Technology — A widely unexplored type of hydrodynamic instability is examined - large-time algebraic growth. Such growth occurs on the threshold of (exponentially) neutral stability. A methodology is provided for predicting the algebraic growth rate of an initial disturbance, when applied to a class of partial differential equations describing wave propagation in dispersive media. There are several morphological differences between algebraically growing disturbances and the exponentially growing wave packets inherent to classical linear stability analysis, and these are elucidated in this study.

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