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PredictionofAlgebraicInstabilities PAULA ZARETZKY, KRISTINA KING, NICOLE HILL, KIMBER-
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CROMER, RIT — A widely unexplored type of hydrodynamic instability is exam-
ined - large-time algebraic growth. Such growth occurs on the threshold of (ex-
ponentially) neutral stability. A new methodology is provided for predicting the
algebraic growth rate of an initial disturbance, when applied to the governing dif-
ferential equation (or dispersion relation) describing wave propagation in dispersive
media. Several types of algebraic instabilities are explored in the context of both
linear and nonlinear waves.

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