INSTABILITY OF PERIODIC WAVES FOR NONLINEAR DISPERSIVE MODELS

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ABSTRACT. The aim of this talk is to give a new light on the linear and nonlinear instability of periodic traveling wave solutions associated to some one-dimensional dispersive models. We establish sufficient conditions for the linear instability of periodic profiles by knowing the behavior of the nonpositive spectrum of the linearized operator. Applications of this approach are concerning with the nonlinear instability of cnoidal wave solutions for the modified Benjamin-Bona-Mahony and the modified Korteweg-de Vries equations.

This is a joint work with Fabio Natali (UEM-Maringa/PR).