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Nonlinear stability of source defects.

Defects are interfaces that mediate between two wave trains with possibly different wave numbers. Of particular interest in applications are sources for which the group velocities of the wave trains to either side of the defect point away from the interface. While sources are ubiquitous in experiments and can be found easily in numerical simulations of appropriate models, their stability analysis still presents many challenges. One difficulty is that sources are not travelling waves but are time-periodic in an appropriate moving coordinate frame. A second difficulty is that perturbations are transported towards infinity, which makes it difficult to apply various commonly used approaches. In this talk, I will discuss nonlinear-stability results for sources that rely on pointwise estimates. (Received December 17, 2014)