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Dynamics of defects in a semilinear wave equation

It is known that a semilinear wave equation with a bistable nonlinearity exhibits, for suitable initial data, an interface whose evolution approximately sweeps out a timelike extremal surface in Minkowski space. We present a new approach to this issue, one that yields a much sharper description of the interface, allows for a wider class of nonlinearities, and that may extend to a range of related problems. This is joint work with Manuel del Pino and Monica Musso.