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Alfonso Castro* (alfonso_castro@hmc.edu), Department of Mathematics, Harvey Mudd College, Claremont, CA 91711. *A semilinear wave equation with non-monotone nonlinearity*

Recent results on existence and regularity of solutions to semilinear wave equations are discussed. The key issue is that the derivative of the nonlinearity includes an eigenvalue of infinite multiplicity. The role of approximate solutions not vanishing on sets of positive measure of characteristics is emphasized. (Received August 05, 2011)