

1165-35-271

Andrew Lawrie* (alawrie@mit.edu), Department of Mathematics, MIT, 2-267, Cambridge,, MA 02139. *Multi-solitons and asymptotically static waves.*

A generic global solution to a nonlinear wave equation exhibits oscillatory behavior, which is reflected in the fact that its kinetic energy does not tend to zero in infinite time. However, there are special solutions whose kinetic energy converges to zero and we call such solutions asymptotically stationary. These play an important role in the description of the phase portrait, whether they are stable or not. Familiar examples include stationary solutions (corresponding to critical points of the potential energy) or their stable manifolds. We discuss asymptotically stationary solutions for the wave maps equation in 2d. We classify all such solutions exhibiting two-soliton structure, and show an application to the soliton resolution conjecture. This is joint work with Jacek Jendrej (CNRS and U. Paris 13). (Received January 19, 2021)