Standing-wave solutions to one-dimensional non-linear Klein-Gordon equations

Daniele Garrisi

University of Nottingham Ningbo China
China
daniele.garrisi@nottingham.edu.cn

In this talk we illustrate the existence of standing-wave solutions to the scalar non-linear Klein-Gordon equation in dimension one and the stability of the ground-state, the set which contains all the minima of the energy constrained to the manifold of the states sharing a fixed charge. For non-linearities which are combinations of two competing powers we prove that standing-waves in the ground-state are orbitally stable. We also show the existence of a degenerate minimum and the existence of two positive and radially symmetric minima having the same charge.