

Existence of Ground States for Nonlinear Evolution on Quantum Graphs

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Abstract: In recent years the research on Nonlinear Quantum Graphs has undergone important developments, also for its applications, ranging from Bose-Einstein condensation to propagation in quantum circuits.

I will focus on the problem of the existence and the shape of the Ground States for the Nonlinear Schroedinger Equation, with particular emphasis on the role of the topology and of the metrics. I will also illustrate more recent results concerning periodic graphs.

The research project I am referring to is a joint work with E. Serra and P. Tilli.