Multiple normalized solutions to a system of nonlinear Schrödinger equations

Jarosław Mederski
Institute of Mathematics, Polish Academy of Sciences,
Warsaw, Poland
jmederski@impan.pl

We present recent results concerning normalized solutions to a system of coupled nonlinear Schrödinger equations. The problem appears in different areas of mathematical physics, e.g. in the analysis of Bose-Einstein condensation or in nonlinear optics. By means of spectral results, the Cwikel-Lieb-Rozenblum theorem, the Morse index and new Liouville-type results we show the existence of multiple normalized solutions for sufficiently large coupling. The talk is based on joint work with Andrzej Szulkin.