Analysis and Applied Mathematics Seminar

Nonlinear bound states with prescribed angular momentum

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Abstract: We prove the existence of a class of orbitally stable bound state solutions to nonlinear Schrodinger equations with super-quadratic confinement in two and three spatial dimensions. These solutions are given by time-dependent rotations of a non-radially symmetric spatial profile which in itself is obtained via a doubly constrained energy minimization. One of the two constraints imposed is the total mass, while the other is given by the expectation value of the angular momentum around the z-axis. Our approach also allows for a new description of the set of minimizers subject to only a single mass constraint.

Monday, March 27 at 4:00 PM in 1227 SEO