

## Karlsruher PDE-Seminar

# Bifurcation of positive solutions for a system of nonlinear Schrödinger equations

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In this talk I present results about a coupled system of nonlinear Schrödinger or Gross-Pitaevskii type equations in a domain in  $\mathbb{R}^N$ . Local and global bifurcations in terms of the coupling parameter of the system are investigated by using spectral analysis and by establishing a new Liouville type theorem for nonlinear elliptic systems which provides a-priori bounds of solution branches. If the domain is radial, possibly unbounded, then we also control the nodal structure of a certain weighted difference of the components of the solutions along the bifurcating branches.

This is joint work with N. Dancer and Z.-Q. Wang.

**Termin:** Donnerstag, 10.6.2010, 17:30 Uhr

**Ort:** 1C-03, Allianz-Gebäude 5.20

**Gastgeber:** Die Dozenten des Schwerpunktes Partielle Differentialgleichungen