



西北大学数学学院

SCHOOL OF MATHEMATICS NORTHWEST UNIVERSITY

## Higher topological type semiclassical states for fractional nonlinear elliptic equations

报告人：缙天祥

报告时间：2024. 4. 22日下午16:00-17:00

报告地点：凌岭报告厅

**报告摘要：** In this talk, we are concerned with semiclassical states to fractional nonlinear elliptic equations in the Sobolev subcritical, critical and supercritical cases. We construct positive semiclassical states and an infinite sequence of sign-changing semiclassical states with higher energies clustering near the local minimum points of the potential. The solutions are of higher topological type, which are obtained from a minimax characterization of higher dimensional symmetric linking structure via the symmetric mountain pass theorem. They correspond to critical points of the underlying energy functional at energy levels where compactness condition breaks down. The proofs are mainly based on penalization methods,  $s$ -harmonic extension theories and blow-up arguments along with local type Pohozaev identities. This is a joint work with Prof. Shaowei Chen.

**报告人简介：** 缙天祥，西安交通大学数学与统计学院助理教授，博士毕业于兰州大学，目前主要从事非线性薛定谔方程驻波解存在性及其动力学行为的研究，相关研究成果发表于 *J. Funct. Anal.*, *Trans. Amer. Math. Soc.*, *Int. Math. Res. Not. IMRN*, *Calc. Var. Partial Differential Equations* 等SCI期刊上，现主持博士后科学基金项目 and 青年科学基金项目各一项。

学术主持：康静

*欢迎各位老师和同学踊跃参加！*

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