Mini-Workshop on Geometric PDEs

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闵行校区理科楼群 6 号楼，中会议室（701-704），2019 年 5 月 18 日	
10:00-12:00	自由讨论
12:00-14:00	午餐
14:00-14:40	王丽萍（华东师范大学） Concentration in nonlinear Schrödinger equation
14:45-15:25	敖微微（武汉大学） Periodic Maxwell-Chern-Simons vortices with concentrating property
15:25-15:55	茶歇
15:55-16:35	朱晓宝（中国人民大学） Prescribing Gaussian curvature on closed Riemann surface with conical singularity in the negative case
16:40-17:20	贺飞（厦门大学） Ricci flow on complete weakly PIC1 manifolds with maximal volume growth
18:00	晚餐

王丽萍， 华东师范大学

Title: Concentration in nonlinear Schrödinger equation

Abstract: In this talk we shall talk about the concentration phenomena in nonlinear Schrödinger equation. Finite dimensional reduction method and infinite dimensional reduction method will be introduced.

敖微微，武汉大学

Title: Periodic Maxwell-Chern-Simons vortices with concentrating property

Abstract: In order to study electrically and magentically charged vortices in fractional quantum Hall effect and anyonic superconductivity, the Maxwell-Chern-Simons (MCS) model was introduced by [Lee, Lee, Min (1990)] as a unified system of the classical Abelian-Higgs model (AH) and the Chern-Simons (CS) model. First we improve and complete the (CS) limit result of (MCS) model without any restriction on either a particular class of solutions, the number of vortex points, or the Chern-Simons parameter. The most important step for this purpose is to derive the relation between the Higgs field and the neutral scalar field. Our (CS) limit result also provides the critical clue to answer the open problems raised by [Ricciardi,Tarantello (2000)] and [Tarantello (2004)], and we succeed to establish the existence of periodic Maxwell-Chern-Simons vortices satisfying the concentrating property.

朱晓宝，中国人民大学

Title: Prescribing Gaussian curvature on closed Riemann surface with conical singularity in the negative case

Abstract: In this talk, we shall present a new result about prescribing Gaussian curvature on a closed Riemann surface with conical singularities in the negative case. This is a joint work Prof. Yunyan Yang.

贺飞，厦门大学

Title: Ricci flow on complete weakly PIC1 manifolds with maximal volume growth

Abstract: A manifold is said to be weakly PIC1 if its product with the real line has nonnegative isotropic curvature. I'll present some local estimates of the Ricci flow on weakly PIC1 manifolds. As an application we show that such a manifold with maximal volume growth must be diffeomorphic to the Euclidean space. This talk is based on a joint work with Man-Chun Lee.