西北大学
NORTHWEST UNIVERSITY

非线性科学研究中心综合报告会

Rogue waves and their patterns in vector NLS equation

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报告时间：2023 年 3 月 15 日 上午 9:00-10:00

报告地点：长安校区东学楼二层凌岭报告厅（0216）

线上会议号：腾讯会议 793 013 7364

报告摘要：

In this talk, we are concerned with the general rogue waves and their patterns in an integrable M-component nonlinear Schrodinger (NLS) equation. As an extension of an interesting work by Jianke Yang for the scalar NLS equation and the Manakov system, we construct the degenerate rogue wave solution of the vector NLS equation which is expressed by tau functions that are determinants of K ×K block matrices (K = 1, 2, ・・・,M) with an index jump of M + 1. We then focus on the patterns for the case M = 3. The patterns of the rogue waves for M = 3 and K = 1 are thoroughly investigated. This is a joint work with Dr. Chengfa Wu and his students at Shenzhen University, China.

报告人简介：

Bao-feng Feng is currently a Professor at the School of Mathematics and Statistical Science of the University of Texas Rio Grande Valley. His research interests focus on applied mathematics especially in nonlinear science. He is a well-known scholar on integrable systems and nonlinear waves. He has published nearly 100 papers and received eight major research grants with more than one million U.S. dollars from multiple research agencies such as U.S. National Science Foundation (NSF), U.S. Department of Defense (DoD) and National Natural Science Foundation of China (NSFC). He delivered a 45 minutes invited talk at International Congress of Chinese Mathematicians in 2019. He currently serves as the Editor for the journal of Physica D.

邀请人：康静

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2023 年 3 月 10 日