

数学与系统科学研究院
计算数学所网络学术报告

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报告题目:

**Far-Field Asymptotics for
Multiple-Pole Solitons in the
Large-Order Limit**

邀请人: 常向科 副研究员

报告时间: 2020 年 11 月 6 日 (周五)

下午 15:00-16:00

报告工具: 腾讯会议 (ID: 905 503 330)

Abstract:

The integrable focusing nonlinear Schrödinger equation admits soliton solutions whose associated spectral data consist of a single pair of conjugate poles of arbitrary order. We study families of such multiple-pole solitons generated by Darboux transformations as the pole order tends to infinity. We show that in an appropriate scaling, there are four regions in the space-time plane where solutions display qualitatively distinct behaviors: an exponential-decay region, an algebraic-decay region, a non-oscillatory region, and an oscillatory region. Using the nonlinear steepest-descent method for analyzing Riemann-Hilbert problems, we compute the leading-order asymptotic behavior in the algebraic-decay, non-oscillatory, and oscillatory regions. This is a joint work with D. Bilman and R. Buckingham [arXiv:1911.04327v1].

欢迎大家参加！