



复旦大学数学科学学院  
数学综合报告会

报告题目: Uniform spanning tree, bilaplacian field and quantum triviality

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报告地点: 光华东主楼 1513

摘要: Quantum triviality refers to the phenomenon that an interacting lattice model converges to a free field in the scaling limit. This has been established for Ising and  $\Phi^4$  models, at or above their upper critical dimensions. We describe a simple spin model from uniform spanning forests in  $\mathbb{Z}^d$  whose critical dimension is 4 and prove that the scaling limit is the bi-Laplacian Gaussian field for  $d \geq 4$ . At dimension 4, there is a logarithmic correction for the spin-spin correlation and the bi-Laplacian Gaussian field is a log correlated field. Based on joint works with Greg Lawler and Xin Sun.

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