

中国科学院

随机复杂结构与数据科学重点实验室

# 学术报告

报告题目: Yang-Mills theory and random surfaces

报告人: Minjae Park (University of Chicago)

时间: 2023年9月15日 (周五) 16:00 - 17:00

地点: 数学院南楼 613

报告摘要:

This talk will explain some recent work on lattice Yang-Mills theory for classical compact Lie groups and its relationship to the theory of random surfaces. I will present alternate derivations, interpretations, and generalizations of several theorems about Brownian motion limits (Dahlqvist), lattice string trajectories (Chatterjee and Jafarov) and surface sums (Magee and Puder). In particular, Wilson loop expectations are expressed as sums over embedded planar maps for any matrix dimension  $N \geq 1$ , any inverse temperature  $\beta > 0$ , and any lattice dimension  $d \geq 2$ . Based on joint work with Sky Cao and Scott Sheffield.