



量子物理学・ナノサイエンス第 246 回セミナー/
東京確率論セミナー

Random polymer models and classical groups

- 講師** : Professor Nikolaos Zygouras
University of Warwick, UK
- 日程** : 12月10日(月) 17:00-18:00
- 場所** : 本館1階 H112 講義室

概要

The relation between polymer models at zero temperature and characters of the general linear group $GL_n(\mathbb{R})$ has been known since the first breakthroughs in the field around the KPZ universality through the works of Johansson, Baik, Rains, Okounkov and others. Later on, geometric liftings of the $GL_n(\mathbb{R})$ characters appeared in the study of positive temperature polymer models in the form of $GL_n(\mathbb{R})$ -Whittaker functions. In this talk I will describe joint works with E. Bisi where we have established that Whittaker functions associated to the orthogonal group $SO_{2n+1}(\mathbb{R})$ can be used to describe laws of positive temperature polymers when their end point is free to lie on a line. Going back to zero temperature, we will also see that characters of other classical groups such as $SO_{2n+1}(\mathbb{R}), Sp_{2n}(\mathbb{R}), SO_{2n}(\mathbb{R})$ do play a role in describing laws of polymers in various geometries. This occurrence might be surprising given the length of time these models have been studied.

連絡教員 物理学系 笹本 智弘 (内線 2736)