



Algebraic renormalization of regularity structures based on multi-indices

Pablo Linares Imperial College

Pablo Linares was born in Madrid. He completed his PhD at the Max Planck Institute for Mathematics in the Sciences (Leipzig) in 2022. Since then, he is a postdoc at Imperial College London (United Kingdom).



Abstract: We consider a generic semi-linear SPDE and construct a regularity structure based on multi-indices, generalizing the work of Otto, Sauer, Smith and Weber. We use the (pre-)Lie algebra of infinitesimal generators of shifts to reformulate the model equations in terms of an exponential map; this allows to easily characterize the effect of admissible local counterterms and establish a recursive construction of algebraically renormalized smooth models, which is closely related to preparation maps in the tree-based framework. In the rough path case (thus in the absence of polynomial contributions), we show that this recursive procedure has a non-recursive equivalent by means of the corresponding group of “translations”, built upon a multi pre-Lie algebra of insertion-like products for multi-indices. Based on joint work with Yvain Bruned.

讲座时间:

2023. 12. 13 周三 下午16:00-17:00

会议地点: ZOOM会议室 会议ID: 354 143 7366 密码: 123456

主办单位:

中科院数学与系统科学研究院应用数学所

北京理工大学数学与统计学院