


复旦大学数学科学学院
数学综合报告会

报告题目：Tree-indexed random walks

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报告摘要：

We think of a random walk as an action of the time on the space. If the time is a digraph G and the space is a digraph H, the random walk is represented by various statistics on the set of all homomorphisms from G to $H.$

For two digraphs G and H, let $hom (G,H)$ denote the number of homorphisms from G to H.

Let $\mathcal A$ and $\mathcal B$ be two classes of digraphs. Each $G\in \mathcal A$ has a left-$\mathcal B$ homomorphism-profile, which is the vector $(hom (H,G))_{H\in \mathcal B}$ and a right-$\mathcal B$ homomorphism-profile, which is the vector $(hom (G,H))_{H\in \mathcal B}$. How can we compare two elements from $\mathcal A$ by their left- or right-$\mathcal B$ homomorphism-profiles?

We plan to introduce some relevant problems and conjectures, mainly about comparing different trees by their right-$\mathcal B$ homomorphism-profiles where $\mathcal B$ is the set of all digraphs or the set of all paths.

Joint work with Zeying Xu, Da Zhao and Yinfeng Zhu.

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