

Geometric Random Graphs

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Title: Quasi-random words and limits of word sequences

Abstract: Quasi-random structures, roughly speaking, are deterministic objects which share many characteristic properties of their random counterparts. Formalizing this concept has turned out to be tremendously fruitful. Over the last two decades it has been recognized that quasi-randomness and limits of discrete structures are two related subjects. Being interesting on their own right, limit theories have also unveiled many connections between various branches of mathematics and theoretical computer science.

The first quasi-random structures were identified by Thomason (1987) and Chung, Graham and Wilson (1989). The theory of limit objects was launched by the work of Lovász and Szegedy (2006).

In this self-contained talk we expound on the theory of quasi-random structures and limit objects by focusing on simple yet fundamental discrete objects; words and convergent word sequences. Surprisingly, neither had been explicitly investigated in the rich literature of quasi-randomness and limits of discrete structures.

Join work with Hiep Han (U. de Santiago de Chile) and Matias Pavez Signé (U. de Chile)