



Probability Seminar

Title: Limit Theorems Under Several Linear Constraints

Speaker: Martin Venker (DCU)

Date: Wed 26th March 2025 at 2:00PM

Location: E0.32 (beside Pi restaurant)

Abstract: We study vectors chosen at random from a compact convex polytope in n -dimensional Euclidean space given by a finite number of linear constraints. We determine for which projections these vectors are asymptotically normal as n goes to infinity. Marginal distributions are also studied, showing that in the large n limit finitely many random variables under linear constraints become i.i.d. exponential under a rescaling. Our approach is based on a complex de Finetti theorem revealing an underlying independence structure, as well as on entropy arguments.