Gastvortrag

Mittwoch, 22. November 2023
Uhrzeit: 13:00 Uhr
Seminarraum I

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Non-asymptotic Results in Quantitative Metric Theory of Diophantine Approximation

Abstract:

Diophantine approximation is the quantitative study of the density of the rationals within the reals. This study naturally leads us to asking about the number of solutions to a range of given inequalities, which has applications across many subjects from statistics to signal processing. Many results regarding this are asymptotic, showing, for example, that the number of rational solutions to certain inequalities grows with the same rate almost everywhere modulo an asymptotic error term.
In this talk, we discuss a method for making the error term explicit. We apply these results in a range of scenarios, including Schmidt's Theorem (which directly answers the question about the number of solutions to a given inequality mentioned above) and the quantitative Duffin-Schaeffer conjecture (Koukoulopoulos-Maynard Theorem). We also provide effective results regarding statistics of normal numbers and strong law of large numbers. This is joint with Ying Wai Lee.

Eingeladen von Ingrid Vukusic