

Strong Uniformity

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The subject of strong uniformity arises from an old conjecture of Khinchin from 1923, disproved by Marstrand in 1970. Recently we proved the positive result that the so-called "continuous version" of Khinchin's conjecture holds. In the 2-dimensional case it leads to "super uniformity", for which we give a detailed discussion. Also, we proved a "dimension-free, complexity-free and start-free" version of the continuous Khinchin's conjecture. This has several surprising applications about the time evolution of large point billiard systems in a box, or one may call it the "kinetic theory of gases". This continues a line of research started by H. Weyl 100 years ago.