



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE  
Geometric Functional Analysis and Probability Seminar

Room 155 ,Ziskind Building  
on Thursday, Mar 21, 2019  
at 13:30

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HUJI

On the local limit theorem in dynamical systems

Abstract:

In 1987, Burton and Denker proved the remarkable result that in every aperiodic dynamical systems (including irrational rotations for example) there is a square integrable, zero mean function such that its corresponding time series satisfies a CLT. Subsequently, Volny showed that one can find a function which satisfies the strong (almost sure) invariance principle. All these constructions resulted in a non-lattice distribution. In a joint work with Dalibor Volny we show that there exists an integer valued cocycle which satisfies the local limit theorem. The first hour will involve painting (Rokhlin towers) while the second one will be mainly concerned with the proof of the local CLT.