

Research Interests

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I am a student of Manfred Einsiedler at ETH Zürich. Being at the very beginning of my PhD, I am mainly interested in effective equidistribution problems. Let $T : X \rightarrow X$ be a continuous map on a metrizable space X . Assume furthermore that T is ergodic with respect to some invariant probability measure μ . Then the Birkhoff Ergodic Theorem assures that for almost every $x \in X$, the orbit of x under T equidistributes with respect to μ . But the theorem does not say anything about the rate of this equidistribution. I am interested in cases where there is a reasonable estimate for the error

$$\left| \frac{1}{n} \sum_{i=1}^n f(T^i x) - \int_X f d\mu \right|,$$

where f is any smooth function on X . Since I just started my PhD a couple of months ago, I am presently reading and trying to understand the work of Einsiedler, Margulis and Venkatesh on this topic.