

Convergence of multiple ergodic averages for totally ergodic systems

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Abstract

A collection of integer sequences is jointly ergodic if for every ergodic measure preserving system the multiple ergodic averages, with iterates given by the sequences, converge to “the expected limit” in the mean, i.e., the product of the integrals. Exploiting a recent approach of Frantzikinakis, which allows one to avoid deep tools from ergodic theory that were previously used to establish similar results, we study joint ergodicity in totally ergodic systems for integer parts of suitable iterates. The motivation for this study, which is joint work with Wenbo Sun (Virginia Tech), comes from previous work with Dimitris Karageorgos.