

ERGODIC THEOREMS ON AMENABLE GROUPS

In 1931, BIRKHOFF gave a general and rigorous description of the ergodic hypothesis from statistical mechanics. This concept can be generalized by group actions of a large class of amenable groups on σ -finite measure spaces. The expansion of this theory culminated in LINDENSTRAUSS' celebrated proof of the general pointwise ergodic theorem in 2001. The talk is devoted to the introduction of abstract ergodic averages as well as their convergence properties. One main focus will be the transfer principle describing a technique to obtain pointwise ergodic results from an abstract mean ergodic theorem. Moreover, an insight into the combinatorial arguments laying the basis for this method is provided.