ERGODICITY OF SKEW PRODUCTS
OVER SHIFTS OF FINITE TYPE

1. Abstract

Let (Ω, μ) be a shift of finite type with a Markov probability, and (Y, ν) a non-atomic standard measure space. For each symbol i of the symbolic space, let Φ_i be a measure-preserving automorphism of (Y, ν). We study skew products of the form $(\omega, y) \mapsto (\sigma\omega, \Phi_{\omega_0}(y))$, where σ is the shift map on (Ω, μ). We prove that, when the skew product is conservative, it is ergodic if and only if the Φ_i's have no common non-trivial invariant set. Joint work with Patricia Cirilo and Enrique Pujals.