

# BERNOULLI ACTIONS OF LOW-RANK LATTICES

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We will discuss the use of entropy in studying factors of Bernoulli systems, and present some applications to the theory of countable Borel equivalence relations. In particular, we present a Borel superrigidity theorem for Bernoulli actions of the low-rank lattice groups  $\Gamma_p = PSL_2(\mathbb{Z}[\sqrt{p}])$ , and show that if  $p \neq q$ , then the orbit equivalence relations arising from Bernoulli actions of  $\Gamma_p$  and  $\Gamma_q$  are incomparable with respect to Borel reducibility.