

TOPOLOGICAL JOININGS OF HIGHER RANK LATTICES ON BOUNDARIES

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ABSTRACT

A central question in dynamics is how a lattice Γ acts on the boundaries G/Q of the symmetric space G/K . (Here, G is a higher rank semisimple group, K is a maximal compact subgroup, and Q is a parabolic subgroup.) In joint work with Ralf J. Spatzier, we study closed Γ -invariant relations on these boundaries. At first glance, one might expect that every such relation must also be G -invariant. This is indeed true when the relations are equivalence relations, as shown by Dani, but it fails in general — counterexamples exist. Still, there are strong restrictions on what can happen, and these are best understood using the structure of the Tits building.