

Measure theory in the geometry of the affine group over the integers

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ABSTRACT:

The n -dimensional affine group over the integers is the group G_n of all affinities on \mathbb{R}^n that leave the lattice \mathbb{Z}^n invariant. We construct a G_n invariant measure on finite unions of simplexes with rational vertices, and prove its uniqueness and relationship with Lebesgue measure and with ergodic states of finitely presented MV-algebras.