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Christopher Connell and **G. Christopher Hruska*** (chruska@uwm.edu), Department of Mathematical Sciences, University of Wisconsin–Milwaukee, PO Box 413, Milwaukee, WI 53201-0413. *Measure theoretic invariants of commensurability for nonuniform lattices.*

Let X be a locally finite CAT(-1) complex (for instance X could be a tree). We develop a variant of Patterson–Sullivan measure for nonuniform lattices in $\text{Aut}(X)$. These measures are invariant under commensurability, thus they can be used to prove that lattices are not commensurable.

The traditional Patterson–Sullivan measure on the boundary at infinity of X encodes the density of an orbit $\Gamma \cdot x$ as viewed from an internal point $y \in X$. If Γ is a nonuniform lattice, then any orbit necessarily avoids large regions of X . In these regions, the vertices of X have arbitrarily large finite stabilizers. The generalized Patterson–Sullivan measures encode, not just the density of an orbit, but also the density of all vertex stabilizers. (Received September 08, 2009)