Mathematics, Statistics, and Computer Science   **@ UIC**

Geometry, Topology and Dynamics Seminar

Hausdorff dimension of the limit sets of Anosov subgroups

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Abstract: Patterson-Sullivan measures were introduced by Patterson (1976) and Sullivan (1979) to study the limit sets of Kleinian groups. Using these measures, they showed a close relationship between the critical exponent, $\delta(\Gamma)$, of a Kleinian group $\Gamma < \mathsf{Isom}(\mathbb{H}^n)$ and the Hausdorff dimension, $\mathsf{Hd}(\Lambda(\Gamma))$, of the limit set $\Lambda(\Gamma)$ of Γ. Intuitively, the critical exponent gives a geometric measurement of the growth rate of a(ny) Γ-orbit in $\mathbb{H}^n$ and, on the other hand, the Hausdorff dimension describes the size of the limit set $\Lambda(\Gamma)$. For instance, for convex-cocompact Kleinian groups Γ, Sullivan proved that $\delta(\Gamma) = \mathsf{Hd}(\Lambda(\Gamma))$. Anosov subgroups (or Anosov representations), introduced by Labourie and further developed by Guichard-Wienhard and Kapovich-Leeb-Porti, extend the notion of convex-cocompactness to the higher-rank. In this talk, we discuss how one can similarly understand the Hausdorff dimension of the limit sets of Anosov subgroups in terms of their appropriate critical exponents. This is a joint work with Michael Kapovich.

Monday, October 28 at 3:00 PM in 636 SEO