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Anosov representations of cubulated hyperbolic groups

lundi 23 juin 2025 14:30 (1 heure)

An Anosov representation of a hyperbolic group Γ quasi-isometrically embeds Γ into a semisimple Lie group in a way which imitates and generalizes the behavior of a convex cocompact group acting on a rank-1 symmetric space; it is unknown whether every linear hyperbolic group admits an Anosov representation. In this talk, I will discuss joint work with Sami Douba, Balthazar Flechelles, and Feng Zhu, which produces new examples of Anosov representations by showing that every hyperbolic group that acts geometrically on a $\mathrm{CAT}(0)$ cube complex admits a 1-Anosov representation into $\mathrm{SL}(d, \mathbb{R})$ for some d. Mainly, the proof exploits the relationship between the combinatorial $\mathrm{CAT}(0)$ geometry of right-angled Coxeter groups and the projective geometry of a convex domain in real projective space on which a Coxeter group acts by reflections.

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