

Seminarium geometrów

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Pranali Sohoni (Ohio State University)

JSJ decomposition of certain Right-angled Coxeter groups to distinguish them up to quasi-isometry

Abstract: A right-angled Coxeter group (RACG) is a group generated by involutions with only commuting relations. It has a defining graph where vertices represent generators and edges encode commutation. Classifying these groups up to quasi-isometry is a challenging but important problem. We use a combinatorial approach to resolve this problem for an interesting family of RACGs whose defining graphs are flag-triangulations of the two-sphere. Given such a RACG, our approach helps us combinatorially determine the JSJ decomposition of a certain 3-manifold on which the RACG acts. Comparing these decompositions for two RACGs in the family reveals obstructions to quasi-isometry between them. This is joint work in progress with Annette Karrer.