

YGGT X - Discussion Group Topics

Suggestions for Tuesday 27th July.

Please suggest

- a topic (with one or two line description)
- The time you prefer (morning sessions or afternoon, or something completely different)
- Potential session leader (if you have one in mind - it can be yourself).

Sami: Does $G = \mathbf{Z}$ wreath \mathbf{Z} act (topologically) properly by semisimple isometries on a complete CAT(0) space X ?

Description: As Rylee Lyman pointed out to me, X would have to contain flats of arbitrarily high dimension. Since G is amenable, it admits a proper action (even a metrically proper one) on a Hilbert space, but this action is mysterious to me. (Caveat: I have no idea if this question is trivial or not.)

Time I prefer: afternoon session

Potential session leader: Sahana Balasubramanya. I am also willing to lead the session

A paper came up on the arxiv today claiming a solution to Whitehead's conjecture:

<https://arxiv.org/abs/2107.12293>

Maybe that's worth discussing? (morning session)

Poisson boundaries for random walks on groups (any session except 10.45pm)

(I'm happy to do this at 21:30 Josh)

Bass-Serre theory and the proof of DGO theorem for X a tree. Mladen mentioned there is an easier proof of the theorem in the special case where X is a tree. He left it as an exercise, so it would be cool to work out this exercise. I am in the US, so prefer afternoon/evening BST sessions. Potential session leader - Rylee? I am also willing to do this. (Tappu)

Actions of Coxeter groups on CAT(0) cube complexes. Maybe give some overview of when this action is geometric, why it sometimes is not. (any session except the late evening one)

Macarena: Canonical completions and retractions, and Sam Shepherd's new paper

Potential session leader: Sam

(morning session- thursday)