APRIL 1 - JULY 15

IMPAN, WARSAW

SIMONS SEMESTER ON

SEMINAR WEDNESDAY, 24.04.2019 13:00-13:50

ROOM 321 SNIADECKICH 8 00-656 WARSZAWA

Suraj Krishna Meda Satish (IMPAN) Constructing the Grushko and JSJ decompositions

GEOMETRIC AND ANALYTIC GROUP THEORY

Abstract: The class of graphs of free groups with cyclic edge groups constitutes an important source of examples in geometric group theory, particularly of hyperbolic groups. In this talk, I will focus on groups of this class that arise as fundamental groups of certain nonpositively curved square complexes. The square complexes in question, called tubular graphs of graphs, are obtained by attaching tubes to a finite collection of finite graphs. I will explain how to algorithmically obtain two canonical decompositions, the Grushko decomposition and the JSJ decomposition, for the fundamental groups of tubular graphs of graphs. While our algorithm to obtain the Grushko decomposition is of polynomial time-complexity, the algorithm for the JSJ decomposition is of double exponential time-complexity, and is the first such algorithm with a bound on its time-complexity.









