GEOMETRIC AND ANALYTIC GROUP THEORY

APRIL 1 - JULY 15

IMPAN, WARSAW

SIMONS SEMESTER ON

SEMINAR
WEDNESDAY, 01.05.2019
14:10-15:00

ROOM 321
ŚNIADECKICH 8
00-656 WARSZAWA

Błażej Szepietowski (Uniwersytet Gdański)
Finite rigid sets in the curve complex of a nonorientablesurface

Abstract: The curve complex C(S) of a surface S is a simplicial complex whose k-simplices correspond to collections of k+1 distinct isotopy classes of essential simple closed curves on S with pairwise disjoint representatives. A celebrated theorem of Ivanov, Korkmaz and Luo says that the group Aut(C(S)) of simplicial automorphisms of C(S) for orientable surface S is, with a few well understood exceptions, isomorphic to the extended mapping class group of S. Atalan and Korkmaz proved recently an analogous theorem for nonorientable surfaces. Aramayona and Leininger showed that C(S) is 'finitely rigid', for orientable S, by constructing a finite subcomplex X of C(S) with the property that every locally injective simplicial map from X to C(S) is induced by some element of the extended mapping class group of S. They also proved that C(S) can be exhausted by a sequence of finite rigid sets. By the work of Ilbira and Korkmaz, the curve complex of a nonorientable surface of genus g with n punctures contains a finite rigid set for g+n> 4. I will present a construction of a sequence of such rigid sets. If g=1 then this sequence exhausts the whole curve complex, for g=2 and g=3 it exhausts a certain large subcomplex.

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