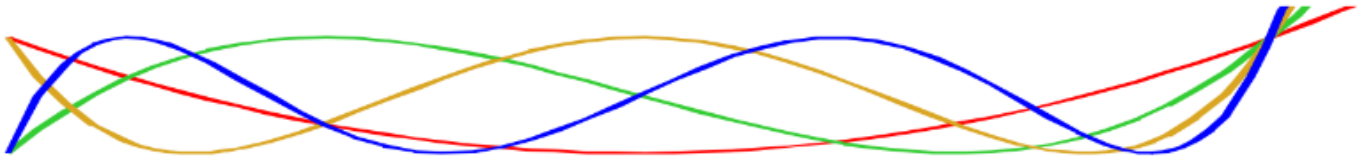

Факультет математики и компьютерных наук СПбГУ

Семинар "Геометрия и комбинаторика"

1 марта, 11-15
Zoom Meeting ID: 813 4428 8370

Vassily Manturov

Virtual knot theory methods in algebraic topology

The aim of the program is to make invariants of topological objects "non-commutative", make them valued "rather in 1-homotopy than homology" and to look at "characteristic cycles instead of characteristic classes". In this talk I discussed only a part of that program: just for usual knots, but potentially we can take whatever non simply connected manifold (or moduli space) to study it by using these methods.

The key examples come from virtual knot spaces where one can easily calculate invariants valued in "pictures" (diagrams of virtual knots) which are quite similar to free groups (from the point of view of unique minimal representative).

These pictures contain much more powerful information than "polynomial", "homological" or even "categorified" invariants.

Such structures naturally appear whenever the moduli spaces of studied objects possess "nice real codimension 1-subspaces" which is often the case.