

GT-shadows and their action on Grothendieck's child's drawings

Vasily Dolgushev
Temple University

Abstract

The absolute Galois group of the field of rational numbers and the Grothendieck–Teichmüller group introduced by V. Drinfeld in 1990 are among the most mysterious objects in mathematics. My talk will be devoted to GT-shadows. These tantalizing objects may be thought of as “approximations” to elements of the mysterious Grothendieck–Teichmüller group. They form a groupoid and act on Grothendieck's child's drawings. Currently, the most amazing discovery related to GT-shadows is that the orbits of child's drawings with respect to the action of the absolute Galois group (when they can be computed) and the orbits of child's drawings with respect to the action of GT-shadows coincide! If time permits, I will say a few words about GT-shadows in the Abelian setting. My talk is partially based on the joint paper <https://arxiv.org/abs/2008.00066> with Khanh Q. Le and Aidan A. Lorenz.