

Dobrushin Scholarship Report (2017)

Alexander Petrov

Papers: • A. Petrov, D. Vaintrob, V. Vologodsky, *The Gauss-Manin connection on the periodic cyclic homology*, available at <https://arxiv.org/abs/1711.02802>

Research talks: • University of Oregon, Algebra Seminar, *Noncommutative crystalline cohomology(joint work in progress with V. Vologodsky)*

- HSE, Conference "Motives, periods and L-functions", *Noncommutative crystalline cohomology(joint work in progress with V. Vologodsky)*

Expository talks: • HSE, Geometric Structures seminar

– *Birationally equivalent Calabi-Yau varieties have equal Hodge numbers*

- Harvard University, Crystalline cohomology learning seminar

– *Newton polygon lies above Hodge*

Schools and conferences attended: • MSRI, Berkeley, "Galois theory of periods and applications"

- University of Copenhagen, "Stable homotopy theory and p -adic Hodge theory"
- St. Petersburg, "First Summer Mathematical School on the Fontanka: Geometry 2017"
- Lunts' dacha seminar, "Lattices in Lie groups"
- Yaroslavl', "Algebra and Geometry"

Teaching: • Organizer, Evening math school at school #57

- Math teacher, High school #57