

Семинар «Геометрические структуры на многообразиях»

Семинар состоится **31 января 2019 года**

Семинар пройдет в аудитории **306, Усачева б. Начало в 18:30.**

Василий Рогов Polarized variations of Hodge structures and Borel—Schmid quasi-unipotency theorem.

About three weeks ago Sasha Petrov gave a talk on our seminar in which he proved the following theorem: assume we're given a smooth holomorphic family of complex projective varieties over a punctured disc. Then the action of the generator of the fundamental group of base on the cohomology of the fibre is quasi-unipotent. The proof given by Sasha was based on the action of the absolute Galois group on étale cohomology. I am going to give a more classical (and perhaps a more geometrical) proof of the same fact. In the first part of my talk I will recall basics on variations of Hodge structures, including geometric motivations and local properties of the period maps (holomorphicity and Griffiths transversality). After the break I will explain how to prove that a local monodromy operator of a polarised variation of \mathbb{Z} -Hodge structures is quasi-unipotent. This proof is based on study of the geometry of polarised period domains.