

March 2, 2014

Provisional response to your comments. I present my views.

1) TWO THEORIES.

- (a) Automorphic forms for number fields and function fields of curves over  $\mathbf{F}_q$ .
- (b) Theories over function fields of algebraic curves over  $\mathbf{C}$ .

The first is the arithmetic theory; the second is the geometric theory.

2) MEASURES ON  $\text{Bun } G$ .

- (a) For the arithmetic theory this is discrete. The measure is 1 divided by the order of the stabilizer of the point.
- (b) Here  $\text{Bun}_G$  is not discrete. The measure is, I hope and believe, given by a Kaehlerian structure, a structure treated in part in Atiyah-Bott.

3) HECKE OPERATORS.

- (a) Over number fields given by functions; over function fields over finite fields given by functions or direct images, as one prefers.
- (b) Over function fields of algebraic curves over  $\mathbf{C}$ , one needs a passage from direct images to integrals. This will be given, I hope by some form of Gauss-Bonnet, thus some form of the index theorem.
- (c) For (b) one will need a passage from the geometric objects (your objects) to analytic objects, thus from holomorphic sections to harmonic sections. Such techniques are available. I have to understand them and see whether they are pertinent.

If I understood all these things now, I would just write a paper. I don't, but I need a rest before beginning to study further the literature and trying to construct a theory.

Это пока всё!

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