18:00:53 From Alexander Braverman : Is there an a priori relation between multiplicity one for f.-dim representations of algebraic groups and for automorphic representations?
18:10:30 From Dennis Gaitsgory : Dim 0 not allowed (for now)!
18:19:35 From Dennis Gaitsgory : Yiannis & David: you must have a picture on the dual side from the M-conjecture?
18:20:08 From Alexander Braverman : For homogeneous spherical varieties Yiannis gave the formulation
18:20:12 From Dennis Gaitsgory : I mean for the kernel of the functor from G to H?
18:20:13 From David BenZvi : I think that's where he's going now
18:20:20 From Alexander Braverman : And we discussed it in January with you (Dennis)
18:20:43 From Alexander Braverman : I mean, Yiannis described the local statement
18:20:57 From Alexander Braverman : the global one we discussed with you but didn't finish, I think
18:21:11 From David BenZvi : That's the main content of our conjecture
18:21:37 From Alexander Braverman : Is there a uniform global conjecture?
18:22:19 From David BenZvi : Certainly under the assumption he's making now, that the dual is a cotangent, and some variants. It's less precise otherwise
18:22:47 From Alexander Braverman : Yes, I think I understand the cotangent case
18:23:02 From Alexander Braverman : But you don't know in advance when the dual is cotangent to something, right?
18:23:24 From David BenZvi : That's right
18:24:12 From Alexander Braverman : When it is not of cotangent type Yiannis considered square of the absolute value of the period. Do you know the categorical machinery behind that?
18:25:30 From David BenZvi : That has to do with replacing the dual space by its cotangent, i.e. the dual Hamiltonian space (without polarization) knows the square
18:25:57 From Yue Feng : How about taking X=Fargues-Fontaine curve?
18:27:21 From Tony Feng : Do you have a global conjecture in a case where the period needs to be squared? What sheaf corresponds to the square of the absolute value?
18:27:50 From Yiannis Sakellaridis : Sorry, I wasn't following the chat.
18:28:24 From Yiannis Sakellaridis : In the non-polarizable case, M^ can at least be related to the relative trace formula, which involves the "squares" of periods.
18:29:06 From Yiannis Sakellaridis : For example, locally, you can compute and decompose self-Exts of the "basic object" in terms of M^
18:29:25 From Yiannis Sakellaridis : And, globally, the RTF of Jacquet is the self-Ext of the period sheaf P_X.
18:30:14 From Tony Feng : Is there a formulation of the form "? \in D(Bun_G) corresponds to ? In Loc_{G^}? " for examples such as GGP
18:30:19 From Roman Travkin : can we say that mul-ty 1 <-> commutative End algebra <-> something geometric?
18:31:36 From Yiannis Sakellaridis : Tony: no, I don't think so. In this case, you need a polarization of the object attached to M^ on the spectral side. We don't have a description of that yet.
18:32:13 From Yiannis Sakellaridis : Roman, which End algebra are you referring to?
18:32:54 From Dmitry Gourevitch : There is a paper by Yotam Hendel (Rami's student) on mult 1 <-> commutativity of a certain algebra
18:33:02 From bezrukav : I think Roman T. was referring about End_G(Fun(G/H)), right?
18:34:15 From Roman Travkin : @RB yes
18:37:35 From Yiannis Sakellaridis : Then yes, at the level of functions multiplicity one = commutative End algebra. But I don't think it works as nicely at the derived level.
18:39:02 From Sam Taylor : thanks
18:41:13 From Yiannis Sakellaridis : e.g., D(G/ad G) is non-trivially braided (see Ben-Zvi and Gunningham, Quantum Ngo Action)
18:42:03 From David BenZvi : Sasha - one crucial place the spherical condition comes in is in the discreteness of the set of G(O) orbits. Without that you can't hope to get such a simple description of the dual — i.e. the symplectic structure is a shadow of a factorizable associative structure, which in general will be a much wilder object
18:43:36 From Roman Travkin : But the assumption on multiplicity 1 is on the function level, no?
18:44:22 From Roman Travkin : (@Yiannis)
18:44:41 From Yiannis Sakellaridis : Yes, but this assumption is not strictly essential. Spherical (which is

slightly weaker) should be enough to describe a dual picture.
18:47:26 From Muthu Krishnamurthy : thanks
18:47:43 From Rina : thanks!