

Quest for D-Affinity

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I am interested in the following problem: "classify all smooth connected D-affine projective varieties".

As a part of their proof of Kazhdan-Lusztig Conjecture, Beilinson and Bernstein have proved that the partial flag varieties G/P are D-affine. This is the current state of art: no other examples are known but there is no proof that the G/P -s exhaust all the possible examples.

In my talk I will show that in three natural classes of varieties D-affinity implies that the variety is G/P , review some examples of more general D-affine spaces, and try to convince the listeners that the problem is related to some other interesting questions in Algebraic Geometry.