Erik Carlsson and Eugene Gorsky*, Department of Mathematics, One Shields Avenue, Davis, CA 95616, and Anton Mellit. Dyck path algebra and Hilbert schemes.

The earlier work of Carlsson and Mellit introduced the Dyck path algebra and its polynomial representation, which was used to prove some important conjectures in algebraic combinatorics. In this paper we construct an action of this algebra on the equivariant K-theory of certain smooth strata in the flag Hilbert schemes of points on the plane. In this presentation, the fixed points of torus action correspond to generalized Macdonald polynomials and the the matrix elements of the operators have explicit combinatorial presentation (Received August 19, 2017)