QUANTUM $sl(n)$ ACTION IN THE EQUIVARIANT K-THEORY OF LAUMON SPACES

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ABSTRACT

G.Laumon has introduced a smooth compactification of the moduli space of maps from the projective line to the flag variety of SL_n. There are natural correspondences between the Laumon spaces, and they are equipped with the natural line bundles. They give rise to the operators in the equivariant K-theory of Laumon spaces, which generate the action of the quantum group $U_q(sl_n)$. The resulting module is the universal Verma module, with a specific basis. These results have an affine analogue, where the Laumon spaces are replaced by the moduli spaces of torsion-free parabolic sheaves on $P^1 \times P^1$. These constructions have potential applications to the computation of equivariant quantum K-theory of the flag variety of (affine) SL_n. The work is joint with A.Braverman and A.Kuznetsov.