

q-Toda systems and quantum K-theory via quasi-maps spaces.

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In the talk I will talk about my recent joint works with M.Finkelberg and J.Shiraishi. I will explain the idea of the proof of a conjecture of Givental and Lee saying that the quantum K-theory of the flag variety G/B for a simply laced semi-simple group G is controlled by the so called q-difference Toda system. The proof uses the geometry of the so called quasi-maps spaces.

If time permits I will also explain some applications to characters of Weyl modules over the group $G[t]$ as well as a partly conjectural generalization of the above results to the case when G/B is replaced by its cotangent bundle and the Toda system is replaced by the Macdonald operators.