## 1146-16-122Oleksandr Tsymbaliuk\* (sashikts@gmail.com), 30 NASH ST, APT 1, New Haven, CT 06511.<br/>K-theoretic Coulomb branches and modified quantum difference Toda systems.

In the recent series of papers by Braverman-Finkelberg-Nakajima a mathematical construction of the Coulomb branches of 3d N=4 quiver gauge theories was proposed (they are symplectic dual to the corresponding well-understood Higgs branches). They can be also realized as slices in the affine Grassmannian and therefore admit a multiplication.

In this talk, we shall discuss the quantizations of the multiplicative analogues of these Coulomb branches, and their (conjectural) down-to-earth realization via shifted quantum affine algebras. Those admit a coproduct quantizing the aforementioned multiplication of slices. In type A, they also act on equivariant K-theory of parabolic Laumon spaces.

As another interesting application, the shifted quantum affine algebras in the simplest case of sl(2) give rise to a new family of  $3^{n-2}$  q-Toda systems of sl(n), generalizing the well-known one due to Etingof and Sevostyanov. Time permitted, we shall discuss the generalization of this construction which naturally produces a family of  $3^{rk(g)-1}$  similar integrable systems.

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