

Cluster structure of (non-autonomous) relativistic Toda chains described by K-matrices

Thursday, July 7, 2022 11:30 AM (1 hour)

Usual relativistic Toda chains have standard cluster algebra description, since they live on double Bruhat cells in the loop groups. This cluster structure gives rise to discrete flows in such systems. These discrete flows can be deautonomized to some non-linear q -difference equations of q -isomonodromic type, closely related to 5d gauge theories. It turns out that exactly the same happens for the relativistic Toda chains described by K-matrices (particular cases are B-type and C-type Toda systems). These systems turn out to be cluster, and even more, they have more discrete flows, which in this case form some affine Weyl groups.

The talk will be based on a part of work in progress with A. Liashyk, A. Marshakov, I. Motorin, M. Semenyakin.

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