

## Deatonomization of cluster integrable systems

*Wednesday, 6 February 2019 14:00 (1 hour)*

To any Newton polygon one can assign the cluster integrable system. The group  $G$  of discrete flows acts on the phase space, preserving the integrals of motion of the cluster integrable system. After deautonomization the action  $G$  leads to  $q$ -difference equations, which are equations of isomonodromic deformations of linear  $q$ -difference equations. Finally, these equations can be explicitly solved using Nekrasov functions of  $5d$  supersymmetric gauge theory or partition functions of topological strings. The Seiberg-Witten curve for corresponding supersymmetric gauge theory and toric Calabi-Yau are constructed from the initial Newton polygon.

Based on joint works with A. Marshakov and P. Gavrylenko.

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