# Cluster algebras of finite type and Bott-Samelson varieties

Jiang-Hua Lu

Abstract:

For a complex simple Lie group $G$ and a Coxeter element $c$ in the Weyl group of $G$, the reduced double Bruhat cell $L^{c, c^{-1}}$ in G has a cluster structure of finite type. We use an embedding of $L^{c, c^{-1}}$ into a Bott-Samelson variety to construct all the cluster tori in $L^{c, c^{-1}}$, and we explain the Poisson geometry in the construction.