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**Changzheng Qu\*** (quchangzheng@nbu.edu.cn), No. 818, Fenghua Road, Jiangbei District, Ningbo, Zhejiang 315211, Peoples Rep of China. *Symplectic Invariants for Curves and Integrable Systems in Symplectic Grassmannian Space.*

In this talk, the symplectic invariants and invariant curve flows in symplectic Grassmannian homogeneous space are discussed. The Maurer-Cartan differential invariants for the Grassmannian curves are derived by developing the equivariant moving frame method. The Grassmannian natural frame are also constructed by a gauge transformation from the Serret-Frenet frame, relating to the hyperbolic natural frame by the local Lie group isomorphism. Using the natural frames, invariant curve flows in the Grassmannian and the hyperbolic spaces are studied. It is shown that certain intrinsic curve flows induce the matrix mKdV equation on the Maurer-Cartan differential invariants. It is also shown that the non-commutative mKdV bi-Hamiltonian structure can be obtained from the Grassmannian geometric poisson brackets. This is a joint work with Prof. Junfeng Song and Prof. Ruoxia Yao. (Received August 20, 2016)