1131-53-240 **Tomoki Ohsawa*** (tomoki@utdallas.edu), 800 W Campbell Rd, Richardson, TX 75080-3021.

The Siegel Upper Half Space, Symplectic Reduction, and Gaussian Wave Packet.

I will talk about the symplectic geometry behind the dynamics of the Gaussian wave packet, particularly the role of the Siegel upper half space in parametrizing the Gaussian wave packet. The Siegel upper half space is the set of symmetric complex matrices with positive-definite imaginary parts. Understanding the geometry of this space gives insights into the description of the dynamics of the Gaussian wave packet. Particularly, I will show that the Siegel upper half space is an example of the Marsden–Weinstein quotient of symplectic reduction. The result provides a connection between two different formulations of Gaussian wave packet dynamics as Hamiltonian dynamical systems via symplectic reduction. (Received July 16, 2017)