1014-54-448 **Zhigang Han*** (zganghan@math.sunysb.edu), Department of Mathematics, Stony Brook University, Stony Brook, 11794. *Bi-invariant metrics on the group of symplectomorphisms.*

Abstract: In this talk, we consider the extension of the Hofer metric and general Finsler metrics on Hamiltonian symplectomorphism group $Ham(M,\omega)$ to the identity component of symplectomorphism group $Symp_0(M,\omega)$. In particular, we will show that the Hofer metric does not extend to a bi-invariant metric on $Symp_0(M,\omega)$ for many symplectic manifolds. We also prove that for the torus $\mathbb{T}^{2n}$ with the standard symplectic form ω, no Finsler metric that satisfies a strong form of the invariance condition can extend to a bi-invariant metric on $Symp_0(\mathbb{T}^{2n},\omega)$. (Received September 16, 2005)