1072-53-119 **Yi Lin*** (yilin@georgiasouthern.edu), 65 Georgia Ave. Room 3008, Statesboro, GA 30458.

Symplectic harmonic Thom forms. Preliminary report.

Consider the symplectic Harmonic Thom forms of an oriented submanifold of a symplectic manifold. It was shown by Bahramgiri that the symplectic harmonic Thom forms of co-isotropic and symplectic submanifolds exhibit interesting properties very different from Riemannian Harmonic forms. In particular, when the submanifold is co-isotropic, the symplectic harmonic form is supported in a tubular neighborhood of the submanifold; and when the submanifold is symplectic, its symplecitc harmonic form is supported everywhere on the ambient symplectic manifold. In this talk, I will give a quick introduction to symplectic hodge theory and explain the main ideas involved in the work of Bahramgiri. I will then discuss what I know about the symplectic harmonic forms of isotropic submanifolds. (Received June 23, 2011)