

1176-58-230

**Langte Ma\*** ([lma@scgp.stonybrook.edu](mailto:lma@scgp.stonybrook.edu)), 100 Nicolls Road, Stony Brook, NY 11794. *Index Theory of End-Periodic Elliptic Complexes.*

Given an elliptic complex over an end-periodic manifold, Taubes showed that the elliptic complex can be completed to a Fredholm complex with respect to weighted Sobolev norms under certain non-degeneracy assumption. In this talk, I will describe the dependence of the index of the completed Fredholm complex with respect to varying the weight. Using this description, one can identify the index difference of two elliptic complexes connected by a path as the periodic spectral flow. This work is motivated by the study of finite energy moduli spaces over periodic manifolds from gauge theory. (Received January 24, 2022)