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Ting-Jian Luo and **Shijun Zheng*** (szheng@georgiasouthern.edu), 65 Georgia Ave, Georgia Southern University, Statesboro, GA 30460-8093. *Stability of Soliton Solutions for The 4NLS with A Decaying Potential.*

The solitons for the fourth-order NLS arise in wave propagation in nonlinear quantum medium. Recently there have been quite intensive studies for this type of equations. In this presentation we shall mainly consider the construction of the ground state solutions and their stability when the 4NLS is perturbed with a decaying potential. We will also discuss the regularity, symmetry and decaying properties for such model. (Received February 10, 2021)