1108-35-104   **Brian Pigott** (`raynorsg@wfu.edu`), Winston Salem, NC 27109, and **Sarah Raynor***
(`raynorsg@wfu.edu`). *Asymptotic Stability of KdV Solitons in Weighted H^s spaces.*

In this work, we consider the stability of solitons for the KdV equation below the energy space, using spatially-exponentially-weighted norms. Using a combination of the I-method and spectral analysis following Pego and Weinstein, we are able to show that, in the exponentially weighted space, the perturbation of a soliton decays exponentially for arbitrarily long times. The finite time restriction is due to a lack of global control of the unweighted perturbation. (Received January 05, 2015)