1096-35-234　　　　　**John Albert** (`jalbert@ou.edu`), 601 ELM Ave, Norman, OK 73019, and **Santosh Bhattarai*** (`bhattarais@trocaire.edu`), 360 Choate Ave, Buffalo, NY. *Symmetric rearrangement and the stability of NLS-KdV solitary waves.*

We prove existence and stability results for a two-parameter family of solitary-wave solutions to a system in which an equation of nonlinear Schrodinger type is coupled to an equation of Korteweg-de Vries type. Such systems model interactions between short and long dispersive waves. The results extend, in a significant way, earlier results of J. Angulo (2006), J. Albert and J. Angulo (2003), and L. Chen (1999). Our proof involves the characterization of solitary-wave solutions as minimizers of an energy functional subject to two constraints. To establish the precompactness of minimizing sequences via concentrated compactness, we develop new method of proving the sub-additivity of the problem with respect to both constraint variables jointly. (Received August 21, 2013)