1067-35-951   **Jerry L. Bona*** (`bona@math.uic.edu`), University of Illinois at Chicago, Dept. Mathematics, Statistics & Computer Sci., 851 S. Morgan Street, MC 249, Chicago, IL 60607. *Stability of Solitary-Wave Solutions of the Hirota-Satsuma Equation.*

The Hirota-Satsuma equation was originally derived as a model for small amplitude, long wavelength water waves. It has explicit solitary-wave solutions that have been know for several decades. However, the question of their stability has proven to be challenging owing in part to the non-local character of the equation.

Making use of recent theory of Iorio and Pilod showing this equation is well posed, the author in collaboration with Dider Pilod has obtained a nonlinear stability result for these solitary-wave solutions.

In addition to sketching the details of this theory, we will also comment on the relevance of the equation to the propagation of water waves. (Received September 16, 2010)