

## **THE HIROTA-SATSUMA EQUATION AND WATER WAVES**

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Hirota and Satsuma derived an integro-differential equation whose solutions in principle approximate the propagation of certain classes of surface water waves.

The lecture will begin with fundamental questions of local and global well-posedness of this system. The discussion will then turn to solitary-wave solutions and their stability within the time-dependent context. Finally, rigorous theory will be indicated showing that this equation does indeed have predictive power.