



Large amplitude internal waves in three-layer flows

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Large amplitude internal waves in a three-layer flow confined between two rigid walls will be examined in this talk. The mathematical model under consideration is an extension of the two-layer MCC (Miyata-Choi-Camassa) model, which can be derived without imposing any smallness assumption on the wave amplitudes and is well-suited to describe internal waves within a strongly nonlinear regime. Solitary-wave solutions will be investigated and some of their properties will be unveiled by carrying out a detailed critical point analysis of the underlying dynamical system. A particular emphasis will be given to mode-2 waves.