

Higher-order, unidirectional models for surface water waves

Jerry Bona, University of Illinois at Chicago

Discussed will be a class of higher-order models for the one-way propagation of long-crested water waves. Such models have appeared often in the literature, but it has proven difficult to provide global well-posedness results for them in the same way as is done for the lower-order KdV- and BBM-type models. Within this class, one discerns a special subclass of Hamiltonian models. It is shown that these do indeed possess the desired well-posedness theory.