1031-35-10   **Timothy A. Smith*** (`smitht1@erau.edu`), 600 S. Clyde Morris Blvd, Daytona Beach, FL 32114.
Applications of nonlinear hyperbolic problems to the theory of water waves.

The problem on initial-periodic and doubly-periodic solutions is considered for nonlinear hyperbolic problems of higher order. Sufficient conditions of solvability are discussed and various estimates are obtained. Also, applications of these equations to the theory of water waves are discussed. An extension of the famous equations for water waves (KdV & NLS) is given with an introduction of a molecular viscosity term and a brief discussion of Benjamin–Feir stability is also offered.

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