NUMERICAL SIMULATION OF WATER WAVE BASED ON CHEBYSHEV SPECTRAL METHOD

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ABSTRACT

   A water wave model was presented by tidal wave partial differential equations in the form of two-dimension, nondimensionalization, and matrix. Numerical simulation of water wave adopted Chebyshev spectral method to solve the partial differential equations. As an example，propagation of a water wave in a square pool due to a water column perturbation was simulated. The simulation result agrees with wave diffusion rule and numerically verified by the same amount of water in the pool. The result showed that the Chebyshev spectral method is concise and accurate in numerical simulation of water wave.

KEYWORDS: *Numerical Simulation, Chebyshev Spectral Method Water Wave Equations*