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Coauthors: J.L. BONA, S.M. Sun and B-Y. Zhang

**APPROXIMATING INITIAL-VALUE PROBLEMS WITH  
TWO-POINT BOUNDARY-VALUE PROBLEMS: BBM-EQUATION**

HONGQIU CHEN

The focus of the present study is the BBM equation which models unidirectional propagation of small amplitude long waves in dispersive media. This evolution equation has been used in both laboratory and field studies of water waves. The principal new result is an exact theory of convergence of the two-point boundary-value problem to the initial-value problem posed on an infinite stretch of the medium of propagation. In addition to their intrinsic interest, our results provide justification for the use of the two-point boundary-value problem in numerical studies of the initial-value problem posed on the entire line.

UNIVERSITY OF MEMPHIS

*E-mail address:* `hchen1@memphis.edu`