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Timothy A Smith* (smitht1@erau.edu), Embry Riddle Aeronautical University, 600 S. Clyde Morris Blvd., Daytona Beach, FL 32114. *Analytical results for an extension of the BBM equation with applications to unidirectional propagation of long waves in certain nonlinear dispersive systems.*

The modified BBM equation is considered with a new forcing term that introduces viscosity and/or other physical phenomenon into the modeling process for propagation of long waves. Analytical methods are utilized to address the conditions necessary for existence and uniqueness of the solution. In addition, the topics of well-posedness and stability will be discussed if time permits. (Received November 05, 2007)