1053-35-35   **Stefan C Mancas*** (`mancass@erau.edu`), 600 S Clyde Morris Blvd, Department of Mathematics, LB124, Daytona Beach, FL 32114, and **Harihar Khanal** (`khana66a@erau.edu`), 600 S Clyde Morris Blvd, Department of Mathematics, LB 121, Daytona Beach, FL 32114. *Solitary waves, periodic and elliptic solutions to the Benjamin, Bona & Mahony (BBM) equation modified by viscosity.*

We use a traveling wave reduction or a so-called spatial approximation to comprehensively investigate periodic and solitary wave solutions of the modified Benjamin, Bona & Mahony equation (BBM) to include both dissipative and dispersive effects of viscous boundary layers. Under certain circumstances that depend on the traveling wave velocity, a class of solitary waves solutions will be obtained in terms of the Jacobi elliptic function. Then, we will solve the IBVP using Fourier spatial discretization and a semi-implicit scheme for time differencing and compare the results obtained numerically and analytically. (Received July 09, 2009)