1001-35-50   **Yue Liu*** (`yliu@uta.edu`), Department of Mathematics, University of Texas, Arlington, TX 76017. *Stability of Solitary-Wave Solutions for the Ostrovsky Equation with Weak Rotation.* Preliminary report.

Considered herein is the stability problem of solitary-wave solutions of the Ostrovsky equation which is an adaptation of the Korteweg-de Vries equation widely used to describe the effect rotation on the surface and internal solitary waves or the capillary waves. It is shown that the ground state solitary waves are global minimizers of energy functional with the constrained variational problem and are deduced to be nonlinearly stable for small effect of rotation. The analysis makes frequent use of the variational properties of the ground states. (Received July 23, 2004)