1145-65-558   **Chong Sun*** (`chong_sun@baylor.edu`), 1806 south 8th st, Waco, TX 76706, and **Qin Sheng** (`qin_sheng@baylor.edu`). *A dynamically balanced numerical method for solving stochastic Heston volatility option pricing model equations.*

Demands of highly efficient and effective numerical methods for solving option trading modeling equations have become increasingly high in recent years. Desirable computational procedures, however, are in general difficult to fulfill due to the cross-derivatives terms involved. This motivates our study. European options are targeted in this report. A dynamically balanced up-downwind finite difference method is proposed and analyzed for solving two-dimensional stochastic Heston volatility option pricing model equations. The ℓ_∞-norm is used in our stability, convergence, monotonicity and positivity analysis. Simulation experiments are given to illustrate our conclusions. (Received September 09, 2018)