1146-65-398 **Xucheng Meng*** (mxc201409@gmail.com), 1523 Greene Street, 313B LeConte College, Columbia, SC 29201, and **Guanghui Hu Hu** and **Nianyu Yi**. *Efficient and High-Order Finite Volume Method for Steady Euler Equations.*

An efficient and high-order finite volume solver for the two-dimensional steady Euler equations is developed. The numerical framework mainly consists of two components, i.e., the Newton iteration to linearize the governing equations and a geometrical multigrid method to solve the derived linear system. The non-oscillatory k-exact reconstruction is used to obtain high-quality solution reconstruction, and the treatment of curved boundary is also considered. To reduce computational effort, the adjoint-based h-adaptive refinement method is adopted. Several numerical examples are presented to demonstrate the effectiveness of the proposed solver. (Received January 27, 2019)