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Xiaozhe Hu* (hu_x@math.psu.edu), Department of Mathematics, Penn State University, University Park, PA 16802, and **Youngju Lee, Jinchao Xu** and **Chensong Zhang**. *On Adaptive Eulerian–Lagrangian Method for Linear Convection–Diffusion Problems.*

In this talk, we consider the adaptive Eulerian–Lagrangian method (ELM) for linear convection–diffusion problems. Unlike the classical a posteriori error estimations, we estimate the temporal error along the characteristics and derive a new a posteriori error bound for the ELM semi-discretization. Furthermore, by combining this error bound with a standard residual-type estimator for the spatial error, we obtain a posteriori error estimators for a fully discrete scheme. Numerical tests are presented to demonstrate the efficiency and robustness of our adaptive algorithm. (Received February 10, 2014)