1086-65-2659 **Michael D Bice*** (mbice@csustan.edu), Mathematics Department, California State University, Stanislaus, 1 University Circle, Turlock, CA 95380. *A Multigrid Method for One-Dimensional Systems of Hyperbolic Conservation Laws.* Preliminary report.

We develop a multigrid method for numerically solving one-dimensional systems of hyperbolic conservation laws. This method uses any stable conservative scheme as the base scheme upon which the multigrid techniques are built. A restriction operator transfers data from the finest grid to coarser grids. We use linear interpolation on the differences of the numerical fluxes to move information from coarser grids to the finest grid. Our multigrid method requires fewer operations and hence less CPU time to reach a given stopping time than the base scheme. We provide many numerical examples to illustrate both the stability of the multigrid method and the advantages of using this method. (Received September 25, 2012)