1046-65-1910 **Yangsuk Ko*** (yko@csub.edu), Department of Mathematics, CSUB, 9001 Stockdale Highway, Bakersfield, CA 93311. *Higher Order Convergence of an SDG method for Scalar Conservation Laws.* Preliminary report.

In 2004, Palaniappan, Haber, and Jerrard introduced a new promising space-time discontinuous Galerkin (SDG) method for scalar conservation laws. Since then, L^1 estimates and entropy inequalities of the approximate solutions of the SDG method have been done and from these results, basic convergence results such as $h^{\frac{1}{4}}$ convergence rate of the approximate solutions of the SDG method were established. In this presentation, the stability results of high order approximate solutions of the SDG method and certain conditions which guarantee the convergence of these high order approximate solutions will be discussed. (Received September 16, 2008)