1003-65-1084  Paul E Castillo* (castillo@math.uprm.edu), Dept of Mathematics, University of Puerto Rico, PO Box 9018, Mayaguez, PR 00681. *An a posteriori error estimate for the Local Discontinuous Galerkin method.

In this work an *a posteriori* global error estimate for the Local Discontinuous Galerkin (LDG) applied to a linear second order elliptic problem is analyzed. Using a mixed formulation, an upper bound of the error in the primal variable is derived from explicit computations. Finally, a local adaptive scheme based on explicit error estimators is studied numerically.

(Received October 03, 2004)