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Iterative limiters for continuous Galerkin discretization of hyperbolic conservation laws.

In this brief talk, various nodal limiters for continuous Galerkin discretization of hyperbolic systems are reviewed. The design and application of these limiters follows the algebraic flux correction paradigm. First, the introduction of low-order artificial dissipation and mass lumping is performed on the semi-discrete scheme of the Euler equations of gas dynamics to get a first order scheme. Then, antidiffusion which is the difference between the standard Galerkin scheme and the first order scheme is constrained using an element based limiter in a conservative fashion to get a high resolution scheme. The element based limiters are computed from a linearity preserving nodal limiter. Numerical simulations are performed to illustrate the performance of the scheme using implicit or explicit time steppers. (Received August 04, 2020)