

Gassner, Gregor J.

A skew-symmetric discontinuous Galerkin spectral element discretization and its relation to SBP-SAT finite difference methods. (English) [Zbl 1275.65065](#)

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MSC:

65M70 Spectral, collocation and related methods for initial value and initial-boundary value problems involving PDEs

65M60 Finite element, Rayleigh-Ritz and Galerkin methods for initial value and initial-boundary value problems involving PDEs

35L65 Hyperbolic conservation laws

35Q53 KdV equations (Korteweg-de Vries equations)

65M12 Stability and convergence of numerical methods for initial value and initial-boundary value problems involving PDEs

Cited in **6** Reviews
Cited in **90** Documents

Keywords:

summation-by-parts; energy stability; simultaneous approximation term; split operator formulation; skew symmetric; numerical examples; discontinuous Galerkin collocation spectral element method; Gauss-Lobatto points; finite difference scheme; finite element; scalar nonlinear conservation laws; nonlinear Burgers equation

Full Text: [DOI](#)