

Bassi, F.; Rebay, S.; Savini, M.

A high resolution discontinuous Galerkin method for hyperbolic problems on unstructured grids. (English) [Zbl 0808.76043](#)

Baines, M. J. (ed.) et al., Numerical methods for fluid dynamics 4. Proceedings of the conference held at Reading University, United Kingdom, April 1992. Oxford: Clarendon Press. 345-354 (1993).

A discontinuous finite element method was employed for the computation of unsteady and steady flows with shocks without using spatial limiters. The results obtained show that the spatial limiting can indeed be avoided, and that high accuracy solutions with sharply resolved discontinuities can be obtained. Since the range of possible applications has not been completely clarified, it is planned to extend the analysis theoretically and by numerical experiments, with the aim to understand the underlying time relaxation limiting approach.

For the entire collection see [\[Zbl 0787.00028\]](#).

Reviewer: [E.Krause \(Aachen\)](#)

MSC:

[76M10](#) Finite element methods applied to problems in fluid mechanics

[76L05](#) Shock waves and blast waves in fluid mechanics

Cited in **2** Documents

Keywords:

[unsteady and steady flows](#); [spatial limiters](#); [time relaxation limiting approach](#)