

High order discontinuous Galerkin methods on pyramidal elements

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Abstract

High order time-explicit nodal discontinuous Galerkin (dG) methods have grown in popularity over the past decade for reasons both mathematical and computational in nature. Optimized Lagrange interpolation nodes [1] and sharp trace inequalities with explicit constants [2] allow for explicit expressions for optimal CFL and penalty constants [3]. Finally, the computational structure of dG methods on simplices and hexahedra allows for efficient implementation on architectures such as GPUs [4]. In this talk, we present extensions of these aspects of dG methods to high order pyramidal elements.

References

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