

The Issues of Solution Approximation in Higher Order Schemes on Distorted Grids

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Abstract

The impact of grid cell geometry on the accuracy of a high order discretization is studied. The issues of solution approximation are investigated on unstructured grids where grid cells are present that are almost degenerate. It will be demonstrated that high order discretization schemes which employ compact discretization stencil are less sensitive to the geometry of a distorted grid in comparison with those over expanded stencils.

Key words: , high order discretization, unstructured grids, discontinuous Galerkin, least-squares approximation, distorted geometry

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