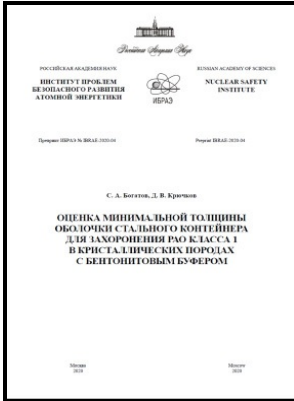


# Grid-transparent numerical method for compressible viscous flows on mixed unstructured grids

- - A finite volume solver for viscous turbulent flows on mixed element unstructured meshes



Description: -

-grid-transparent numerical method for compressible viscous flows on mixed unstructured grids

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Notes: Thesis (Ph.D.) - Loughborough University, 1999.

This edition was published in 1999



Filesize: 37.82 MB

Tags: #An #ALE #method #for #compressible #multi

## The discontinuous Galerkin spectral element methods for compressible flows on two

The scheme is demonstrated using selected one-dimensional initial value problems for which exact solutions are derived, a two-dimensional void collapse, and a three-dimensional simulation of a confined explosion. Cut-cell methods for unsteady flow problems can greatly simplify the grid generation process and allow for high-fidelity simulations on complex geometries.

## Numerical Analysis for Compressible Viscous Isothermal Stationary Flows

The required reconstruction of mixed cell volume fractions and cut cell geometries is presented in detail using the level-set fields. However, on the cells which are intersected by the embedded boundaries a direct forcing approach is adopted lacking discrete conservation. Results obtained with the SD method for both inviscid and viscous compressible flows compare well with analytical solutions and other published results.

## Central Station

Computational Physics 227, 2008, 7246-7263. The flow is computed on a fixed Cartesian mesh and the solid boundaries are allowed to move freely through the mesh.

## Numerical Methods for Compressible Flow

Two-phase flows with a high density ratio show a distinct compensating behaviour, while the introduction of flux or wetted volume correction practices leads to notable improvements for single-phase flows in both homogeneous and heterogeneous resolution conditions.

## Related Books

- [Proceedings: 6th International Symposium on the Description and /or Comparison of English and Greek](#)
- [Current immunosuppression - an update : proceedings of a round table meeting held in Prague on 6th D](#)
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