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Direct Arbitrary-Lagrangian-Eulerian finite volume schemes on moving nonconforming unstructured meshes

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**Highlights**

- Novel high resolution finite volume schemes on moving nonconforming unstructured meshes
- Significantly improved robustness in shear flows compared to conforming ALE schemes
- Locally and globally conservative ALE schemes that respect the geometric conservation law (GCL)
- The fully discrete one-step scheme can be derived from a space-time conservation formalism
- Well-balanced for non-trivial stationary solutions of the governing PDE

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