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Mesh Optimization to Improve the Stability of Finite-Volume Methods on Unstructured Meshes

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Highlights

- A new approach to stabilize PDEs governing computational fluid dynamics problems.
- Stabilizing the semi-discrete Jacobian via gradients of its rightmost eigenvalues.
- Optimizing unstructured meshes by systematically moving mesh vertices locally.
- Selectively increasing the reconstruction stencil via the rightmost eigenpairs.

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