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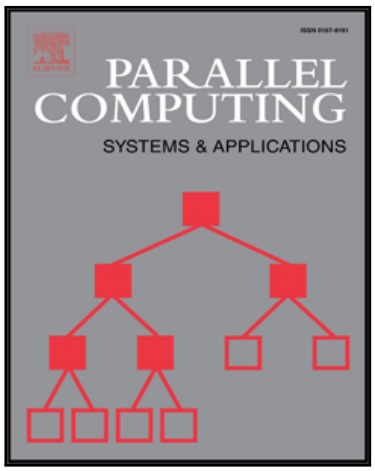

High-Performance Aerodynamic Computations for Aerospace Applications

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Highlights

- A recent study outlining a NASA vision for computational fluid dynamics (CFD) development emphasizes the importance of high-performance computing (HPC) in increasing the impact of CFD on design and certification of aerospace vehicles.
- Broader use of CFD in aerospace applications has been limited by its inability to accurately predict turbulent separated flows.
- This paper presents recent experiences with the development, implementation, and application of a large-scale solver for turbulent flow simulations in HPC environments and discusses computational challenges and opportunities pertaining to aerospace computations.

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