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Solving Navier-Stokes' equation using Castillo-Grone's mimetic difference operators on GPUs MOHAMMAD ABOUALI, JOSE CASTILLO, Computational Science Research Center, San Diego State University — This paper discusses the performance and the accuracy of Castillo-Grone's (CG) mimetic difference operator in solving the Navier-Stokes' equation in order to simulate oceanic and atmospheric flows. The implementation is further adapted to harness the power of the many computing cores available on the Graphics Processing Units (GPUs) and the speedup is discussed.

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