

Abstract Submitted
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How grid quality affects solution accuracy JOHN RHOADS, Pointwise, Inc — Finite volume simulations ranging from RANS to LES inherently require some discretization of the fluid region being examined, which is in many ways dictated by the numerics employed to represent Navier-Stokes. However, for generic finite volume codes, the presence of poor quality elements can lead to difficulty in obtaining a converged solution and, perhaps even worse, significant non-physical artifacts in a converged solution. A fundamental set of examples in two and three dimensions will be presented in order to demonstrate these effects and how to avoid them. Additionally, results for a benchmark geometry from a case study on grid effects will also be discussed.

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