Introduction: Drag Prediction Workshop

In this special section, the AIAA *Journal of Aircraft* is featuring a set of publications from the Third AIAA computational fluid dynamics (CFD) Drag Prediction Workshop (DPW). The DPW series was initiated in 2000 by a working group of members from the AIAA Applied Aerodynamics Technical Committee. From the onset, the DPW Organizing Committee (OC) defined a set of primary objectives for the DPW Series that we continue to use as our operating guidelines. These include the following:

1) Assess state-of-the-art CFD methods as practical aerodynamic tools for the prediction of forces and moments on industry-relevant geometries, with a focus on absolute drag.

2) Provide an impartial international forum for evaluating the effectiveness of CFD Navier–Stokes solvers.

3) Promote balanced participation across academia, government labs, and industry.

4) Use common public-domain subject geometries, simple enough to permit high-fidelity computations.

5) Provide baseline grids to encourage participation and help reduce variability of CFD results.

6) Openly discuss and identify areas needing additional research and development.

7) Conduct rigorous statistical analyses of CFD results to establish confidence levels in predictions.

8) Schedule open-forum sessions to further engage interaction among all interested parties.

9) Maintain a public-domain-accessible database of geometries, grids, and results.

10) Document workshop findings; disseminate this information through publications and presentations.

To date, three workshops have been conducted, with a fourth being planned to occur in conjunction with the 27th Applied Aerodynamics Conference, to be held San Antonio, Texas, during the summer of 2009. In addition to the workshops, the DPW OC has held numerous special sessions at the winter Aerospace Sciences Meetings and summer Applied Aerodynamics Conferences that have generated many publications and have been the catalyst for much discussion.

When the concept of this workshop series first began to take form in January 2000, it was impossible to anticipate the level of interest that this grass-roots campaign would generate. The magnitude of the cumulative efforts that the DPW participants have invested has significantly exceeded our most optimist expectations. Furthermore, the DPW OC has helped spawn efforts to collect additional wind-tunnel data from multiple experimental facilities on DPW-related configurations. Because of these contributions, the public now has ready access to a wealth of previously unavailable data that is suitable for CFD validation and verification.

It has been a pleasure and an honor to work with the organizing committee members, the DPW participants, and the AIAA to create and execute the Drag Prediction Workshop series. I hope you will enjoy reading the papers of this special section of the *Journal of Aircraft*.

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