WAKE-INTEGRAL METHOD FOR DRAG PREDICTION

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Aerodynamic drag is a critical magnitude on aircraft performance. Despite the improvements on CFD techniques (numerical solutions, mesh generation, physical models, etc), it still being one of the most difficult prediction magnitude. It is partially due to the complexity of physical models, but also some exclusively numerical effects arise (mesh influence, numerical dissipation, discretization errors, etc).

Farfield drag extraction tools provide an alternative to classical near field approach, offering the possibility of decomposing drag contributions based on their physical source and improving mesh independence. Trefftz plane methodology has been implemented and tested. Results show appreciable improvements regarding mesh dependency and numerical effects correction compared to previous developments.

REFERENCES