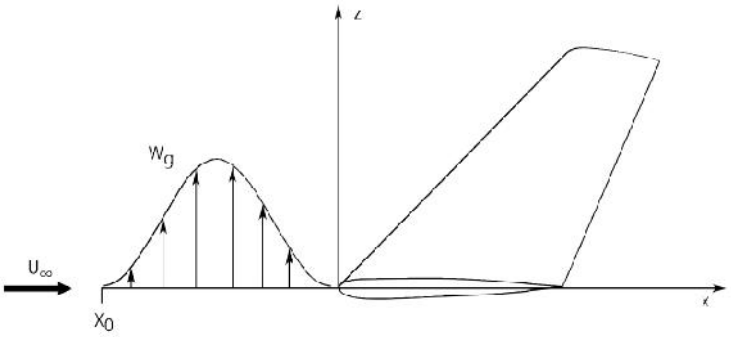
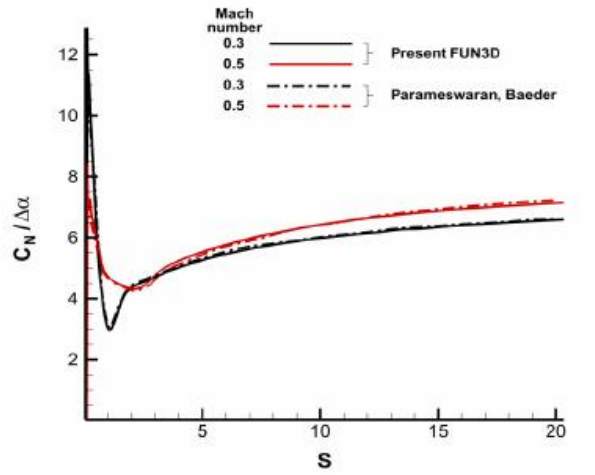
Verification type	Numerical Solution
Database reference	NUM-1
Topic / Application	Aerodynamics Aeroelastics
Physics	Dynamic Gust response
Summary	Verification of FUN3D CFD Code for aerofoil dynamic gust response, primarily using numerical solutions but also an analytical solution.
Description	This paper undertakes verification upon the NASA CFD code FUN3D. The gust capability is verified by computing the response of an airfoil to vertical perturbation in velocity. This result is compared with other numerical solutions which are presented as a benchmark. An analytical solution is also used for verification. A reduced order model is also created and comparison made for verification purposes. In all cases a general system response parameter is used for comparison, for example the time history of the normal force coefficient.
Case Title	Development, Verification and Use of Gust Modeling in the NASA Computational Fluid Dynamics Code FUN3D
Authors	*Bartels, Robert E.*
Year	2012
Online reference	NASA/TM–2012-217771
Case image	
Governing equations	N/A

The SUSANA project is co-funded by the European Commission within the 7th Framework Program

Grant agreement no.: FCH-JU-325386

Results	 This is a comparison of the normal force coefficient (evaluated through time S) computed by FUN3D and by another numerical solution

The SUSANA project is co-funded by the European Commission within the 7th Framework Program

Grant agreement no.: FCH-JU-325386