SAN DIEGO STATE UNIVERSITY

AERODYNAMICS AND AEROELASTICITY OF INNOVATIVE WING SYSTEMS

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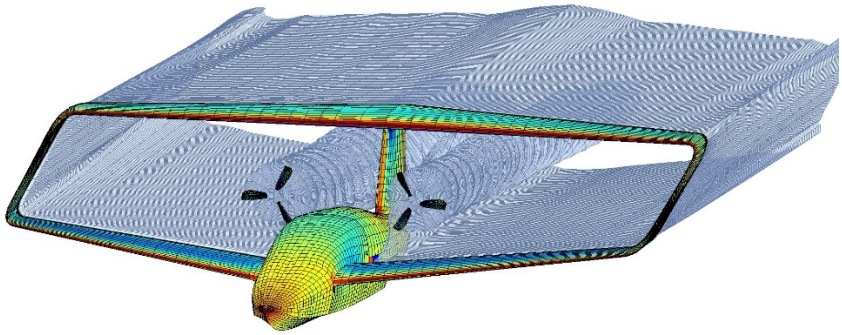
Traditional configurations have been adopted for many decades in both civil and military applications. Their design reached high levels of efficiency due to the progress in both computational and experimental aspects of the engineering tools and capabilities. However, this is also an indication of a limit of the current systems: only incremental enhancements in terms of performances, fuel consumption, and operative costs can be obtained, unless a dramatic departure of the layout of airplanes is introduced.

This seminar presents aerodynamic and aeroelastic preliminary design tools/theoretical frameworks tailored for innovative non-planar wing systems, such as Joined Wings, Box Wings, and Truss-Braced Wings. The challenges and opportunities brought by aeroelastic nonlinearities will also be discussed.



Bio-Sketch

Luciano Demasi received his PhD in Aerospace Engineering in 2004 (Politecnico di Torino, Italy) and currently is a professor at the San Diego State University (Dept. of Aerospace Engineering). He is also an American Institute of Aeronautics and Astronautics (AIAA) Associate Fellow and is author of more than 100 publications in the areas of *Aerodynamics, Structures,* and *Aeroelasticity*