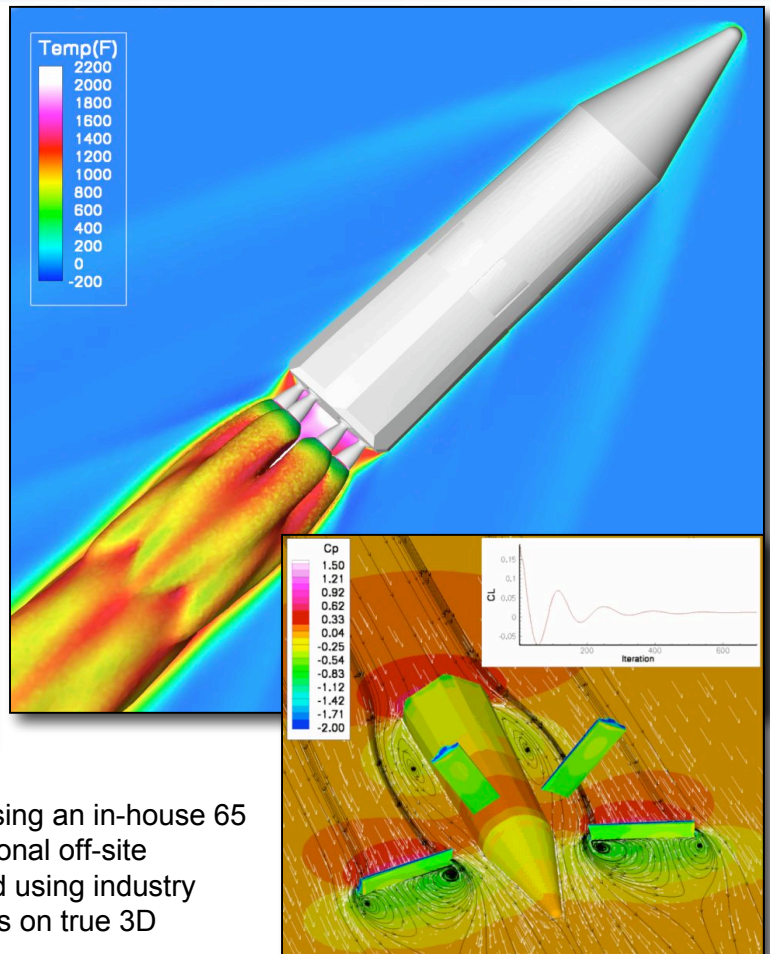
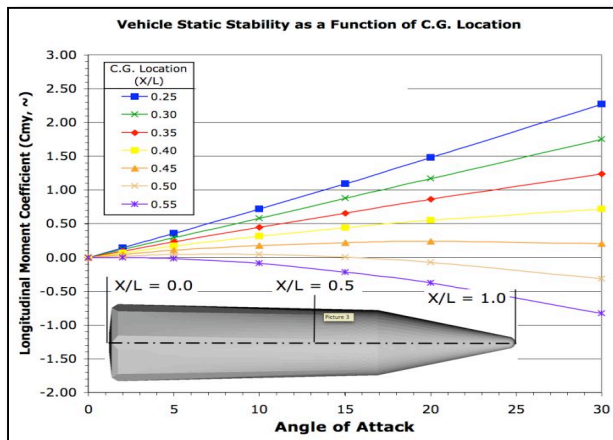


Computational Fluid Dynamics (CFD) Analysis



SIMULATION CAPABILITIES INCLUDE:
Compressible and Incompressible Flow
Subsonic to Hypersonic
Inviscid, Viscous and Laminar Flow
Viscous Flow with SA, SST and DES Models
Steady-State or Time Accurate Solutions
Moving Body and Relative Motion Models



TGV performs complex aerodynamic analysis using an in-house 65 GigaFLOP super computer with access to additional off-site computing resources. Simulations are performed using industry standard NASA USM3D and FUN3D flow solvers on true 3D meshes.

These tools can be applied to a number of different areas of aerospace vehicle design, including rapid evaluation of conceptual designs, identification of aerodynamic loads for structural analysis, and determining vehicle forces and moments for control law development. These capabilities can also be applied to propulsion system integration, classifying thermal environments, and can be used as inputs for classical acoustic analysis.

TGV Inc. has extensive work experience in a wide range of fluid flow studies involving both physical tests and computational simulations. Examples include simulation of aerobraking system design, flight vehicle performance, stability and control analysis, and rocket engine nozzle design and engine power effects.

TGV can perform complex aerodynamic analysis to model a wide range of aerodynamic configurations from low subsonic to hypersonic flight regimes.



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