



NASA STTR 2005 Phase I Solicitation

T2.01 Flight Dynamic Systems Characterization

Lead Center: AFRC

This topic solicits proposals for innovative, linear or non-linear, aerospace vehicles dynamic systems modeling and simulation techniques. In particular:

Research and development in simulation algorithms for computational fluid dynamics (CFD), structures, heat transfer, and propulsion disciplines, among others: in particular, emphasis is placed on the development and application of state-of-the-art, novel, and computationally efficient solution schemes that enable effective simulation of complex practical problems such as modern flight vehicles, like X-43 and F-18-AAW, as well as more routine problems encountered in recurring atmospheric flight testing on a daily basis. Furthermore, the effective use of high-performance computing equipment and computer graphics development is also considered an important part of this topic.

Aeroelasticity and aeroservoelasticity, linear and non-linear: vehicle stability analysis is an important aspect of this topic. Primary concern is with the development and application of novel, multidisciplinary, simulation software using finite element and other associated techniques.