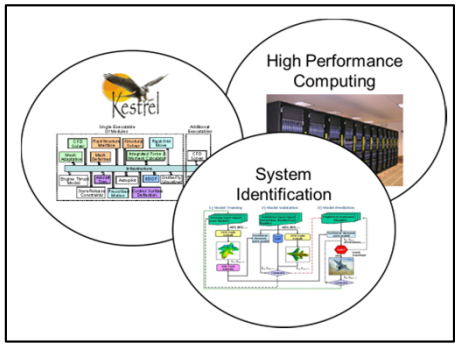
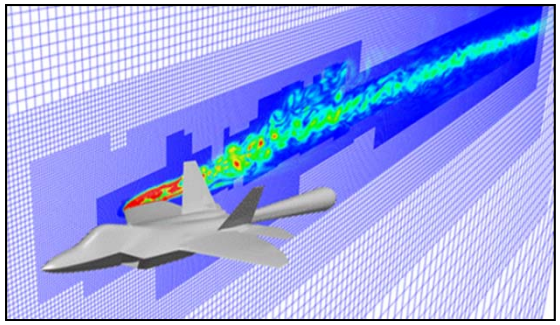
Digital Thread Pilot

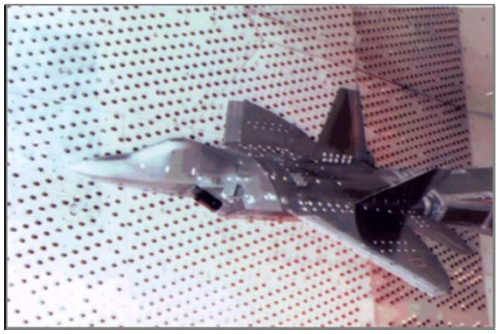
Focused on reducing wind tunnel testing for aerodynamic performance, stability & control, and loads ~ 65-70% of wind tunnel campaign



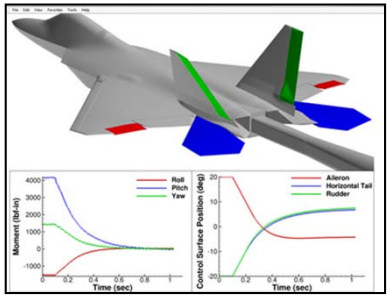
CREATE-AV Tools
+ High Performance Computing



Systematic Optimization of Computational Parameters



Validated, Verified Against Original AEDC F-22 WT Data Base



Demonstrated Auto-Trim Capability for Control Authority

- **Demonstrated ability to generate digital surrogate representation of aero/S&C/loads using only the OML**
- **DOE can be applied to identify minimum test campaign**
- **Approach can accelerate traditional development timelines, Preliminary design -> wait for wind tunnel data -> design control laws -> design structure**
- **Change in wind tunnel test techniques offers even more savings – reduced WT models, fly the mission approach**

Application of the Digital Thread construct using Kestrel could enable reduction of an aero/S&C wind tunnel campaign by nominally 60%