



NASA SBIR 2011 Phase I Solicitation

A4.01 Ground Test Techniques and Measurement Technology

Lead Center: LaRC

Participating Center(s): ARC, GRC

NASA is seeking highly innovative and commercially viable test measurement technologies, test techniques, and facility performance technologies that would increase efficiency, capability, productivity for ground test facilities. The types of technology solutions sought, but not limited to, are: skin friction measurement techniques; improved flow transition and quality detection methodologies; non-intrusive measurement technologies for velocity, pressure, temperature, and strain measurements; force balance measurement technology development; and improvement of current cutting edge technologies, such as Particle Based Velocimetry (LDV, PIV), Pressure Sensitive Paint (PSP), and focusing acoustic measurements that can be used more reliably in a production wind tunnel environment. Instrumentation solutions used to characterize ground test facility performance are being sought in the area of aerodynamics performance characterization (flow quality, turbulence intensity, mach number measurement, etc.). Of interest are subsonic, transonic, supersonic, and hypersonic speed regimes. Specialized areas may include cryogenic conditions, icing conditions, and rotating turbo machinery. Proposals that are applicable specifically to the ATP facilities (see <http://www.aeronautics.nasa.gov/atp>) and across multiple facility classes are especially important. The proposals will also be assessed for their ability to develop products that can be used in other aerospace ground test facilities.