NASA SBIR 2006 Phase I Solicitation

**A4.01 Test Measurement Technology**

*Lead Center: GRC*

*Participating Center(s): ARC, LaRC*

NASA is concerned with operating its ground test facilities with new and innovative methods for test measurement technology. By using state-of-the-art test measurement technologies and novel means of acquiring test data, NASA will be able to operate its facilities more efficiently and effectively and also be able to meet the challenges presented by NASA's cutting edge research and development programs. NASA's aeronautics and space research and development pushes the limits of technology, including the ground test facilities that are used to confirm theory and provide validation and verification of new technologies. Therefore, NASA is seeking highly innovative and commercially viable test measurement technologies that would increase efficiency or overcome research and development technology barriers for ground test facilities.

The first emphasis for this subtopic is in the area of test measurement technology. Examples of the types of technology solutions sought, but not limited to, are data acquisition system improvements, skin friction experimental measurement techniques, and improved flow transition detection methodologies.

The second emphasis for this subtopic is a specific area of test measurement technology: instrumentation. Instrumentation examples include new or novel, non-intrusive measurement technologies for pressure, temperature, and force measurements; and force measurement (balance) technology development. Solutions are also sought with regards to the instrumentation used to characterize ground test facility performance. This could be in the area of aerodynamics performance characterization (flow quality, turbulence intensity, etc.) or, for example, in the case of specialty facilities, the measurement of high ice water content conditions in an icing wind tunnel.

Proposals that lead to products or processes that are useful across multiple facility classes are especially important. The proposals will also be assessed for their ability to develop products that can be used in government-owned, industry and academic institution aerospace ground test facilities.