Spectral Radiances provide a new standard in absolute accuracy: 
**Direct IASI radiance validation results from aircraft**


*and Hampton University

**JAIEx: Joint Airborne IASI Validation Experiment**

- **What:** Metop and Aqua satellite under-flights for radiance and retrieval validation (IPO / UK / EUMETSAT supported)
- **Who:** NPOESS Airborne Sounder Testbed team (NAST-I/M & S-HIS on NASA WB57) & UK team (ARIES on Facility for Airborne Atmospheric Measurements BAe146-301)
- **When:** 14 April to 4 May 2007
- **Where:** Comparisons over the Gulf and Oklahoma ARM site from Houston airbase

**Summary of Radiance Validation**

- The absolute calibration of IASI and AIRS Radiance are comparable and represent a huge improvement over past IR sounders for both weather and climate applications
- The value of aircraft observations for direct radiance validation has now been definitively proven (0.1 K sensitivity)
- Validation over their lifetime is still needed to assure the long-term stability

**IASI, NAST-I, and SHIS Mean Spectra**

IASI minus NAST-I, IASI minus SHIS

Double obs-calc method

IASI, NAST-I, SHIS Mean spectra

Four CART-site (2 day & 2 night); Three Gulf of Mexico (2 day & 1 night); Five joint MetOp & Aqua (3 day & 2 night)

Much more JAIEx data to analyze (7 Cal/Val Flights)