Distribution of Hyperspectral Radiances to Numerical Weather Prediction Centers

Walter Wolf¹, T. King¹, L. Zhou¹, Z. Cheng¹, C. Barnet² and M. Goldberg²

¹QSS Group Inc, Lanham, MD, USA
²NOAA/NESDIS/STAR
Camp Springs, MD USA

The near real-time AIRS processing and distribution system has been operational at NOAA/NESDIS/STAR since October 2002. The Numerical Weather Prediction (NWP) Centers have been receiving the AIRS radiances that are now operational at a number of these centers. The initial radiances distributed were the center field of view (FOV) of the nine FOVs within a golf ball. Since the NWP centers assimilate clear radiances, this choice of FOV was non-optimal for distribution. To tailor to the needs of the users, the determination of the FOV to distribute was changed to the warmest FOV within a golf ball (using a window channel). This warmest FOV dataset is currently being operationally distributed. A test dataset is being produced that contains the clearest AIRS golf ball FOV by using MODIS data. This dataset may become operational if deemed more suitable that the warmest FOV dataset.

The AIRS near real-time operational system is the baseline for the design and development of the IASI and then CrIS near real-time processing and distribution systems. The IASI system will be distributing subset radiances to the NWP within the United States while the CrIS system will distribute the near real-time radiances to the same customers as AIRS. The products and similarities of all three systems will be discussed and presented.