**S04-5**

**Introducing a web-based system for hyperspectral instrument status and data quality assessment to meteorological users**

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The Cross-track Infrared Sounder (CrIS) onboard the Suomi NPP satellite is a hyperspectral infrared interferometer, covering thousands of channels over three bands: longwave, mid-wave and shortwave. It has been in operational use for more than three years. Each day, it sends out more than 24 Gb science telemetry data (RDR) and produces about 50 Gb infrared radiance record (SDR). These data are not only widely assimilated in weather forecast model, but also applied in many areas related to environment/climate science. Therefore the CrIS instrument status and data quality are critical information for any user.

Timely monitoring the CrIS data quality is a challenging task, considering the huge data rate, sophisticated ground processing system and complicated calibration algorithm. The NOAA Center for Satellite Applications and Research (STAR) developed a long-term calibration/validation system (ICVS) to do this job.

The CrIS ICVS system covers three areas: instrument housekeeping information, RDR data quality, and SDR product quality. More than 400 parameters are monitored as figures through the internet on each day. Meanwhile, a processing log is archived in the back end, recording any anomaly down to the pixel level.

In the past three years, we have reported a bunch of anomalies through this system and accumulated an intact historical processing record. This system has helped many people: instrument vender uses it to assess instrument status; ground processing team uses it to debug software bugs; algorithm team uses it to evaluate calibration algorithm; end users use it to evaluate data reliability. After three years of development and optimization, this system has become a robust and reliable tool for operational use. It has been recently transplanted to the Office of Satellite and Product Operations (OSPO) as an official operational system.