
Stennis Space Center Verification & Validation Capabilities

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Scientists within NASA’s Applied Sciences Directorate have developed a well-characterized remote sensing Verification & Validation (V&V) site at the John C. Stennis Space Center (SSC). This site enables the in-flight characterization of satellite and airborne high spatial and moderate resolution remote sensing systems and their products. The smaller scale of the newer high resolution remote sensing systems allows scientists to characterize geometric, spatial, and radiometric data properties using a single V&V site. The targets and techniques used to characterize data from these newer systems can differ significantly from the techniques used to characterize data from the earlier, coarser spatial resolution systems. Scientists are also using the SSC V&V site to characterize thermal infrared systems and active lidar systems. SSC employs geodetic targets, edge targets, radiometric tarps, atmospheric monitoring equipment, and thermal calibration ponds to characterize remote sensing data products. The SSC Instrument Validation Lab is a key component of the V&V capability and is used to calibrate field instrumentation and to provide National Institute of Standards and Technology traceability. This poster presents a description of the SSC characterization capabilities and examples of calibration data.

This work was directed by the NASA Applied Sciences Directorate at the John C. Stennis Space Center, Mississippi. Participation in this work by Science Systems and Applications, Inc., was supported under NASA Task Order NNS04AB54T.

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**4. TITLE AND SUBTITLE**  
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**14. ABSTRACT**  
Scientists within NASA's Applied Sciences Directorate have developed a well-characterized remote sensing Verification & Validation (V&V) site at the John C. Stennis Space Center (SSC). This site enables the in-flight characterization of satellite and airborne high spatial and moderate resolution remote sensing systems and their products. The smaller scale of the newer high resolution remote sensing systems allows scientists to characterize geometric, spatial, and radiometric data properties using a single V&V site. The targets and techniques used to characterize data from these newer systems can differ significantly from the techniques used to characterize data from the earlier, coarser spatial resolution systems. Scientists are also using the SSC V&V site to characterize thermal infrared systems and active lidar systems. SSC employs geodetic targets, edge targets, radiometric tarps, atmospheric monitoring equipment, and thermal calibration ponds to characterize remote sensing data products. The SSC Instrument Validation Lab is a key component of the V&V capability and is used to calibrate field instrumentation and to provide National Institute of Standards and Technology traceability.

**15. SUBJECT TERMS**  
verification & validation, V&V, calibration, characterization, radiometry, spatial response, positional accuracy, remote sensing