BINGKUN
LUO
Center for Astrophysics | Harvard & Smithsonian

Bingkun Luo1*, Xiong Liu1, Jonathan Franklin2, Eamon Conway1,6, Kang Sun3, David Miller2, Sébastien Roche4, Christopher Chan Miller4, Jonas Wilzewski2, Maya Nasr2, Josh Benmergui4, Kelly Chance1, Steven Wofsy2,5

1. Center for Astrophysics | Harvard & Smithsonian, Cambridge, MA, USA
2. Harvard John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, USA
3. Research and Education in Energy, Environment and Water Institute, University at Buffalo, Buffalo, NY, USA
4. Environmental Defense Fund, Washington, DC, 20009, USA
5. Department of Earth and Planetary Sciences, Harvard University, Cambridge, MA, USA
6. Kostas Research Institute, Northeastern University, Burlington, MA, USA

Poster

MethaneSAT is a recently launched Environmental Defense Fund (EDF) satellite mission designed to monitor methane emissions from over 80% of global oil and gas production, as well as other methane sources, with high precision and fine spatial resolution. The MethaneSAT instrument consists of two push-broom imaging spectrometers: the CH4 spectrometer (1.598-1.676 ?m) to detect CH4 and CO2 absorption near 1.65 and 1.61 ? m, and the O2 spectrometer (1.249-1.305?m) to detect O2 absorption near 1.27 ?m.

We present the results of the pre-flight calibration analysis of the MethaneSAT sensors. To reduce risk during the build, a sequence of thermal vacuum campaigns was conducted at component levels culminating in a final flight-system level TVAC during Q4 2023 when the two sensors were fully controlled using flight electronics. We will present the system performance including examples of detector-level residual image, dark current, nonlinearity, gain, and pixel response non-uniformity as well as sytem-level straylight, radiometric calibration and spectral response function.

Meeting homepage
IWGGMS-20 Workshop
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