

# LITES Passing Over Millstone Hill ISR

George Geddes<sup>1</sup>, Saurav Aryal<sup>1</sup>, Susanna Finn<sup>1</sup>, Tim Cook<sup>1</sup>, Supriya Chakrabarti<sup>1</sup>, Andrew Stephan<sup>2</sup>, Scott A. Budzien<sup>2</sup>

<sup>1</sup>University of Massachusetts Lowell, <sup>2</sup>U.S. Naval Research Laboratory

george\_geddes@student.uml.edu

## LITES

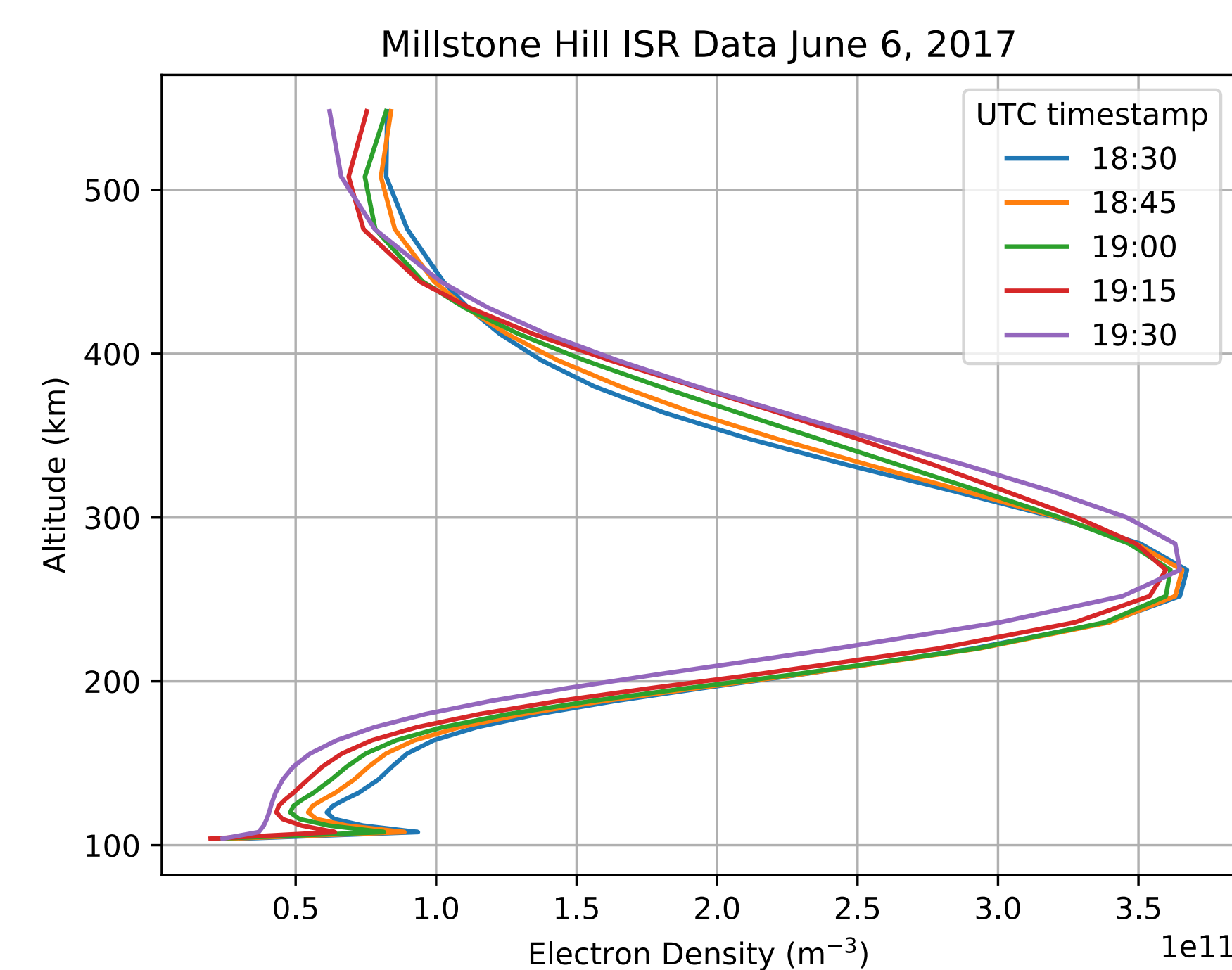
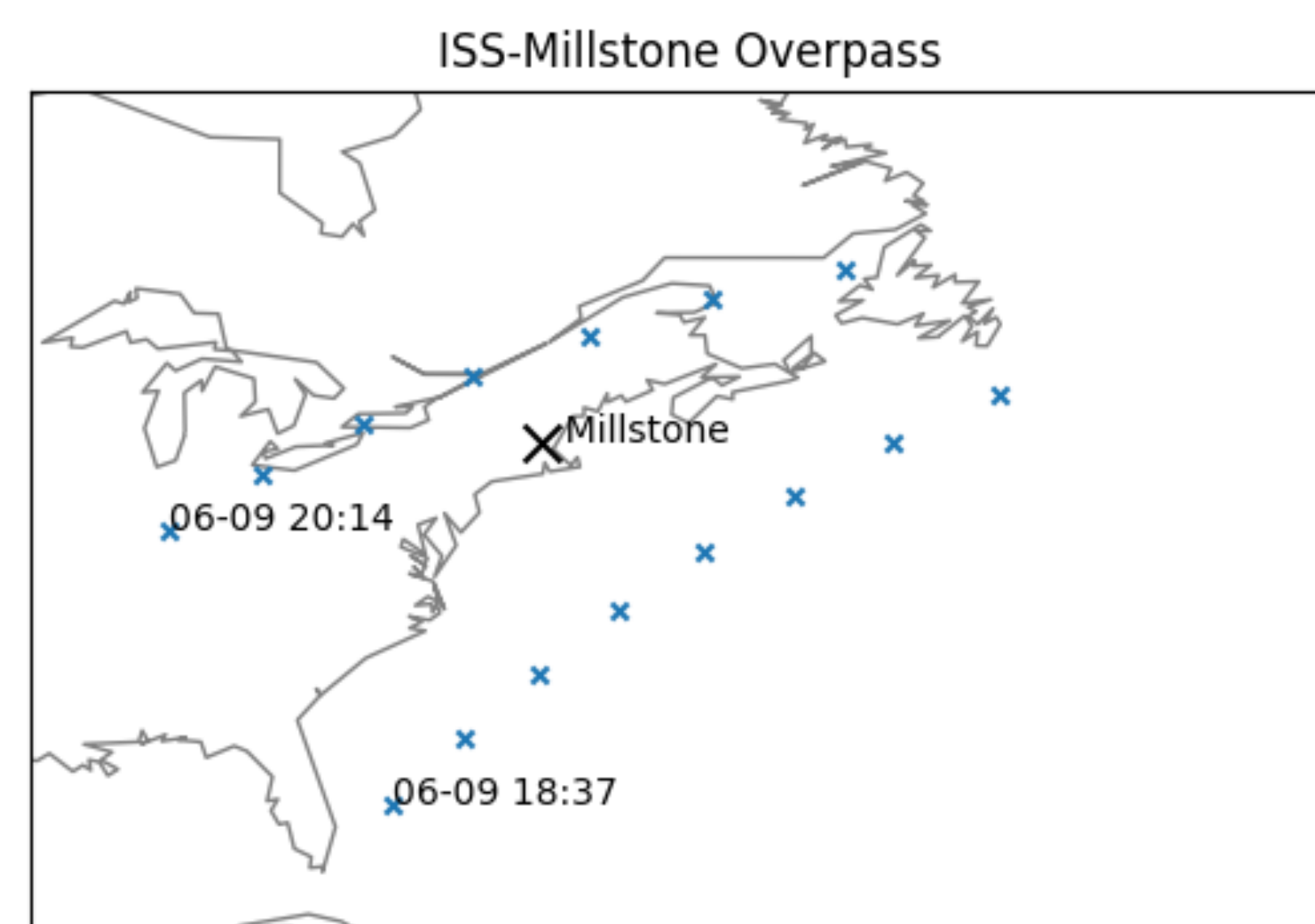
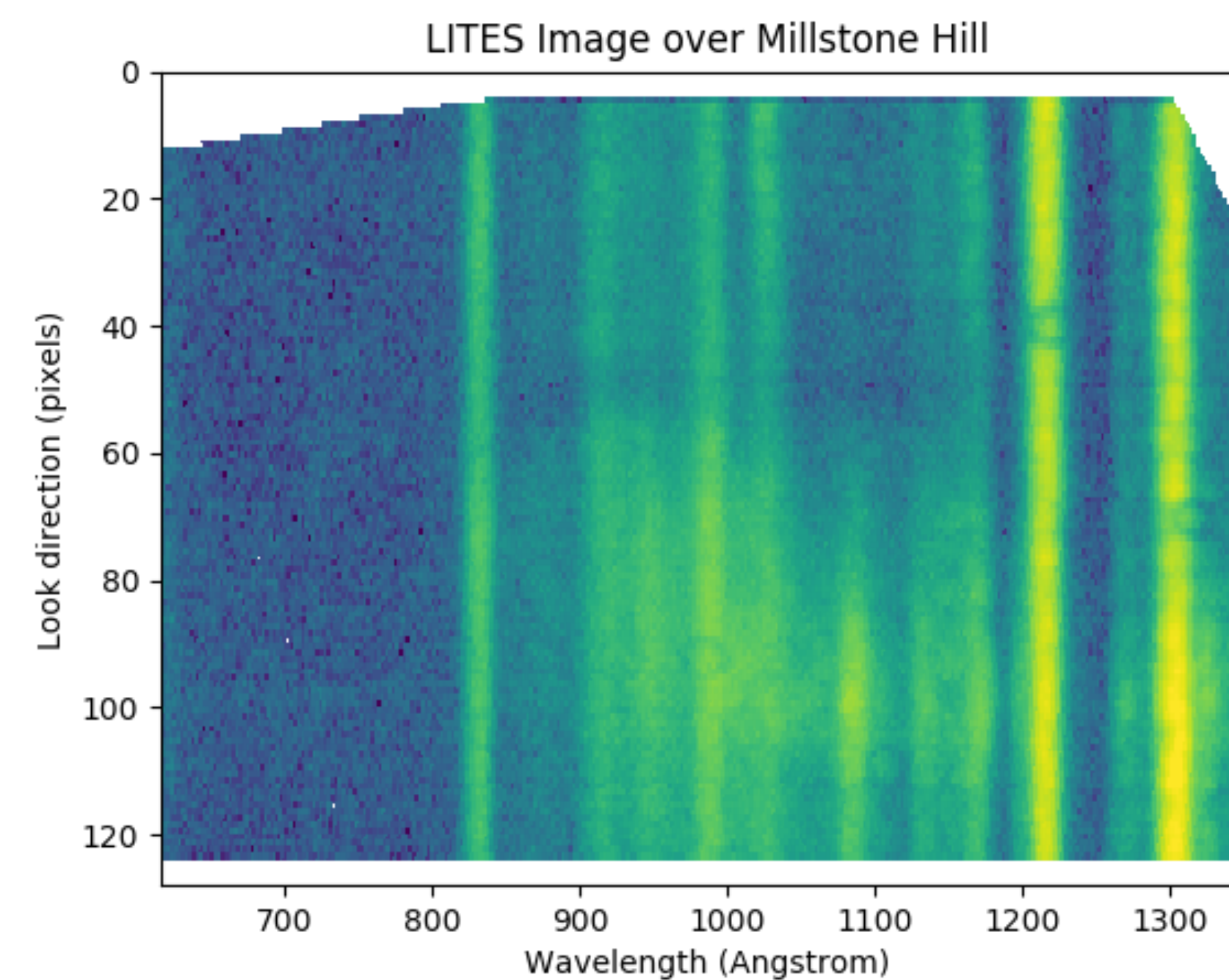
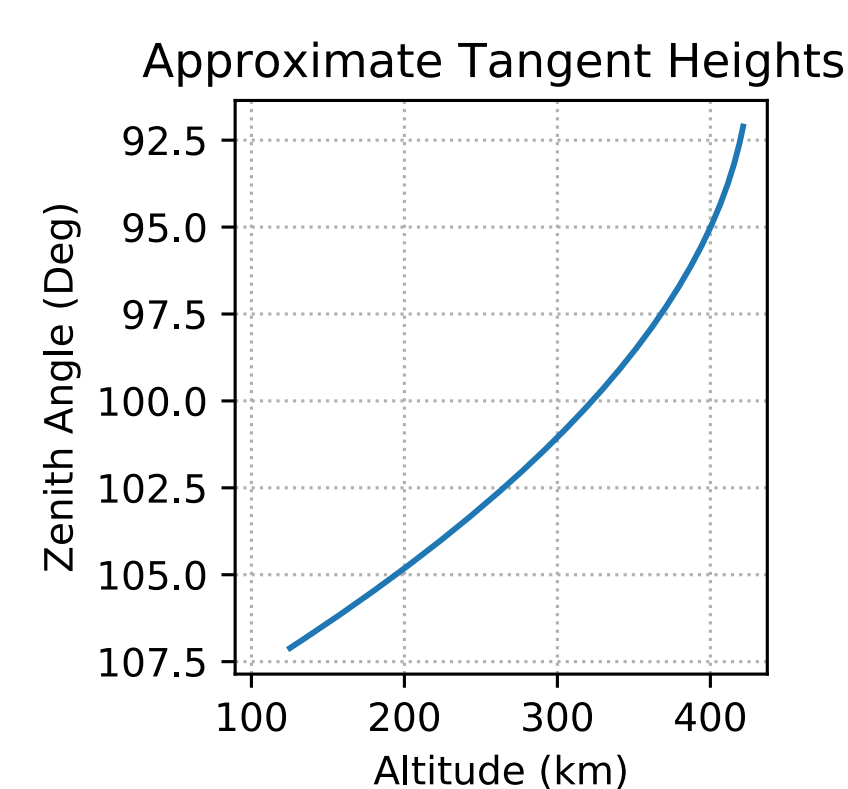
The Limb-Imaging Thermospheric Extreme-ultraviolet Spectrograph (LITES) launched on February 19, 2017 and was mounted on the International Space Station (ISS). "First light" was collected on March 6 and early orbit checkout was completed on April 4. LITES will operate continuously in day and night conditions for the duration of the STP-H5 mission lifetime, which is a minimum of two years. LITES is sensitive to UV emissions from approximately 600-1400 Å and images the limb from 100-400 km continuously during the night and day. Calibration of data is underway and with new data coming in every day, collaboration is very welcome!

## Flight Data

The data presented in this poster have not been calibrated or background-subtracted, but simply scaled to fit model predictions. This gives an idea of LITES' sensitivity and spectral range, although many more features than the three presented here are available.

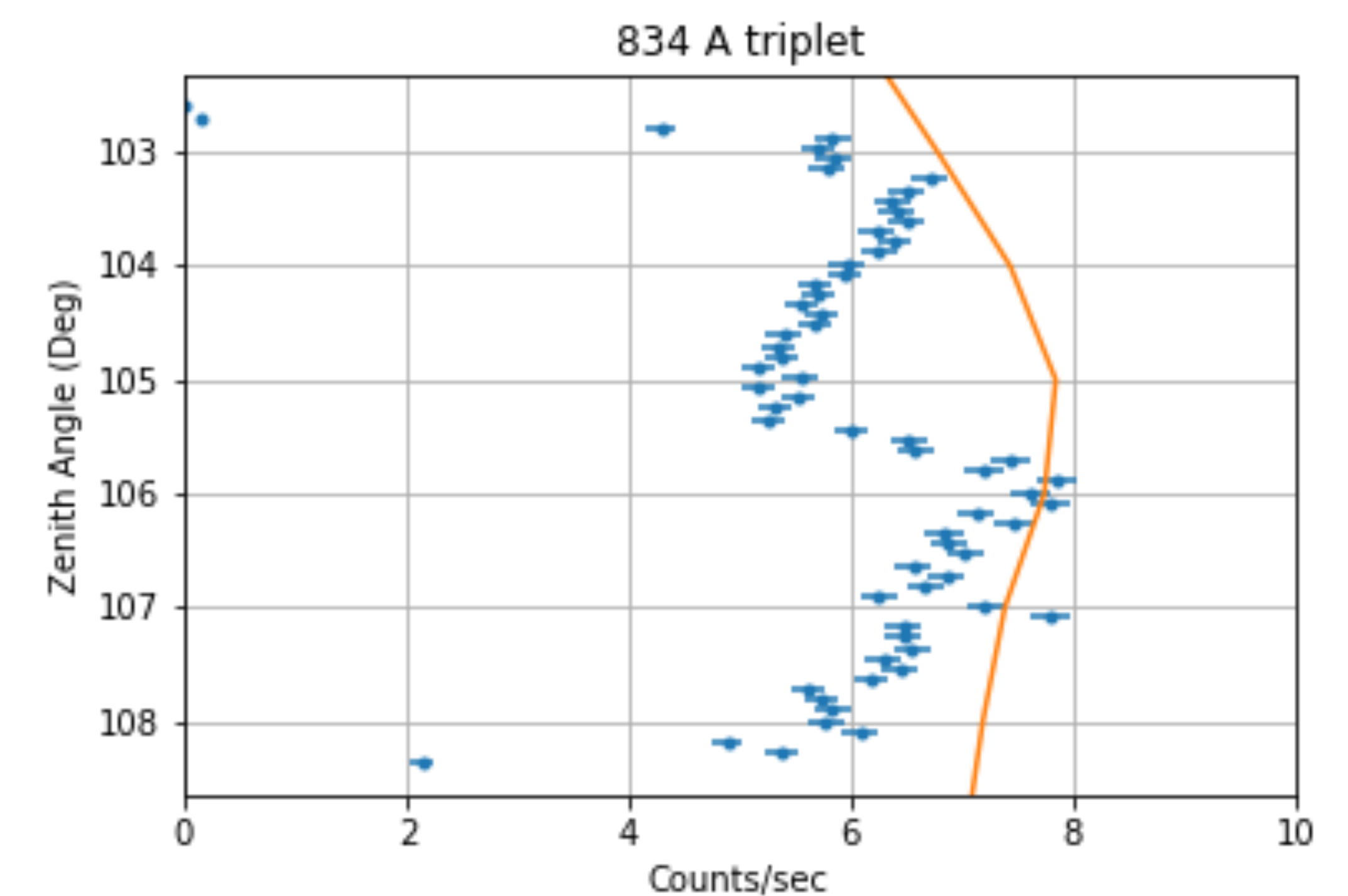
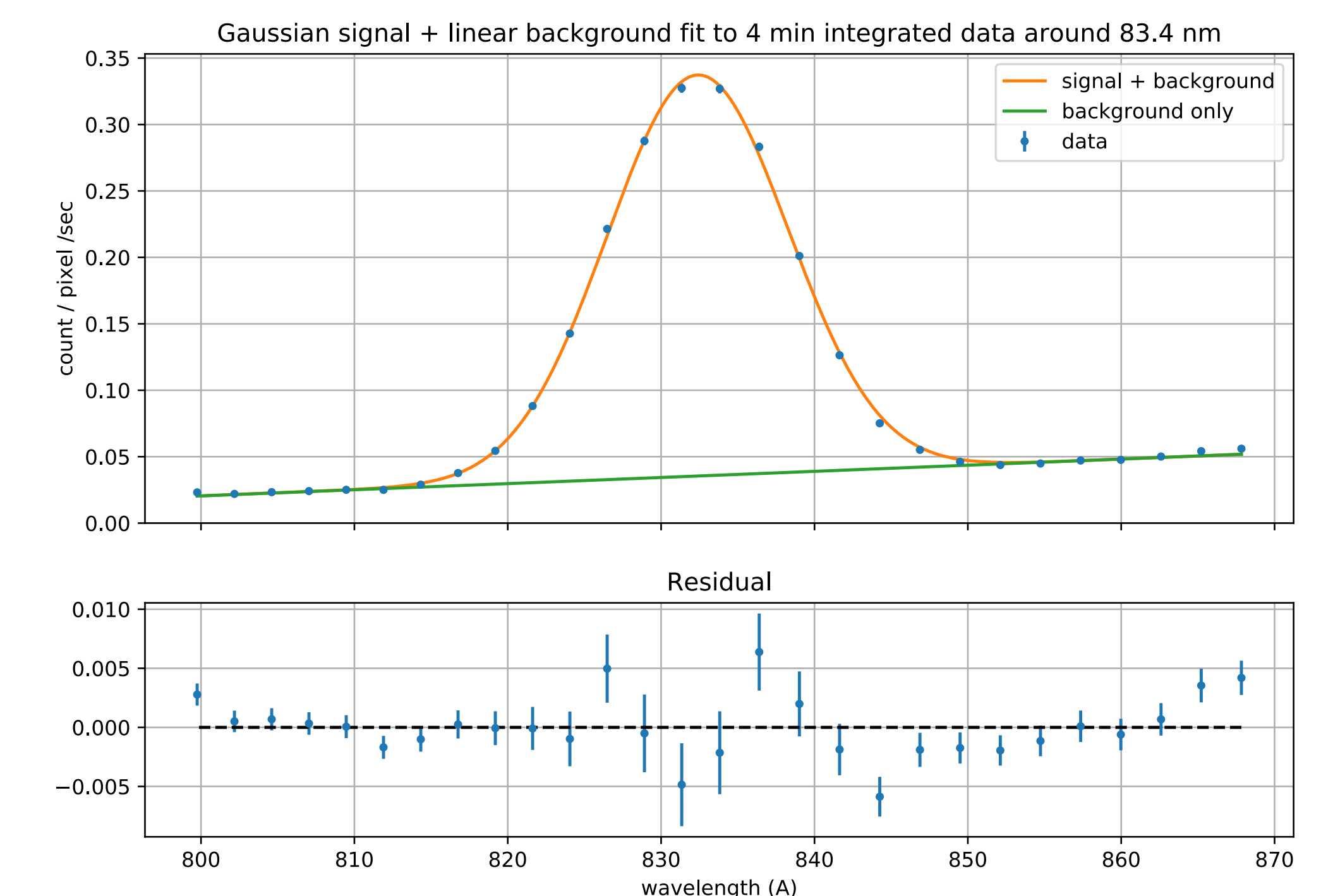
## Limb-Viewing Geometry

LITES looks aft of the ISS through the limb of the thermosphere. It has a 6° field of view in the vertical direction and a 10° horizontal field of view.



## Limb Profile Data

Since calibration is not yet available, LITES limb profiles are scaled and plotted next to an AURIC prediction OII 834 Å and OII 617 Å at four points along an orbit on June 9th, 2017. Each limb profile is integrated over approximately four minutes by combining three-second exposures. Scaling is determined by a least squares fit to the model at low altitude. Error bars represent 1σ uncertainty in photon count.



**Acknowledgements**  
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**References**  
[1] Hubert, B., Gérard, J. C., Cotton, D. M., Bisikalo, D. V., & Shematovich, V. I. (1999). Effect of hot oxygen on thermospheric OI UV airglow. *Journal of Geophysical Research: Space Physics*, 104(A8), 17139-17143.