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Instrument Science Report COS 2017-15

Summary of Cycle 23 Program- COS Pure Parallel Observations of Geocoronal Ly α

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ABSTRACT

In this report we summarize the Cycle 23 geocoronal Ly α observations for the Cosmic Origin Spectrograph (COS).

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1. Introduction

This program is designed to acquire geocoronal Ly α (airglow) observations for some of the most used COS observing modes as a pure parallel program with the Space Telescope Imaging Spectrograph (STIS). The purpose of this program is to provide COS users with airglow data for use in customized calibrations and modeling of airglow features. All observations were successful

Table 1. Cycle 23 Airglow Observations.

Program ID	Rootname	Cenwave
14429	LD1CE1060	1327
14429	LD1CE2060	1327
14429	LD1CE3060	1291
14429	LD1CE4060	1291
14833	LDBUE2060	1327

Note. — All exposures were taken with exposure times of 2900s and at FP-POS 3.

2. Summary

The Cycle 23 airglow observations were taken as pure parallel observations with the STIS programs 14429 and 14833. Program, 14429 contains two airglow observations with the (Grating/Cenwave) G130M/1327 setting (see Figure 1 for an example) and two with the G130M/1291 setting (Figure 2), while program, 14833 contains one G130M/1327 exposure.

These data sets were successfully completed, have been archived and are available for download. For convenience to users, we have listed links to each of these data sets on the COS Airglow website:

<http://www.stsci.edu/hst/cos/calibration/airglow.html>.

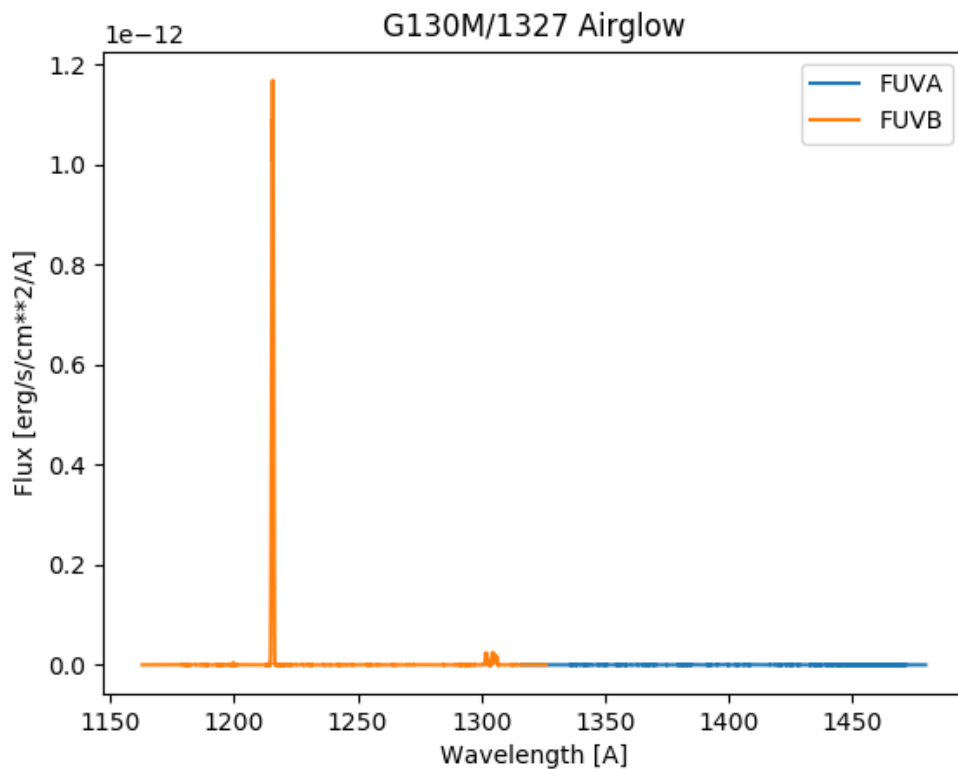


Figure 1. G130M/1327 example, LD1CE1060, with segments highlighted. Ly α airglow is seen at 1215.6702 Å, Nitrogen at \approx 1200 Å and Oxygen airglow is seen at 1302.1685 Å (O I), 1304.8576 Å (O I*) and 1306.0286 Å (O I**)

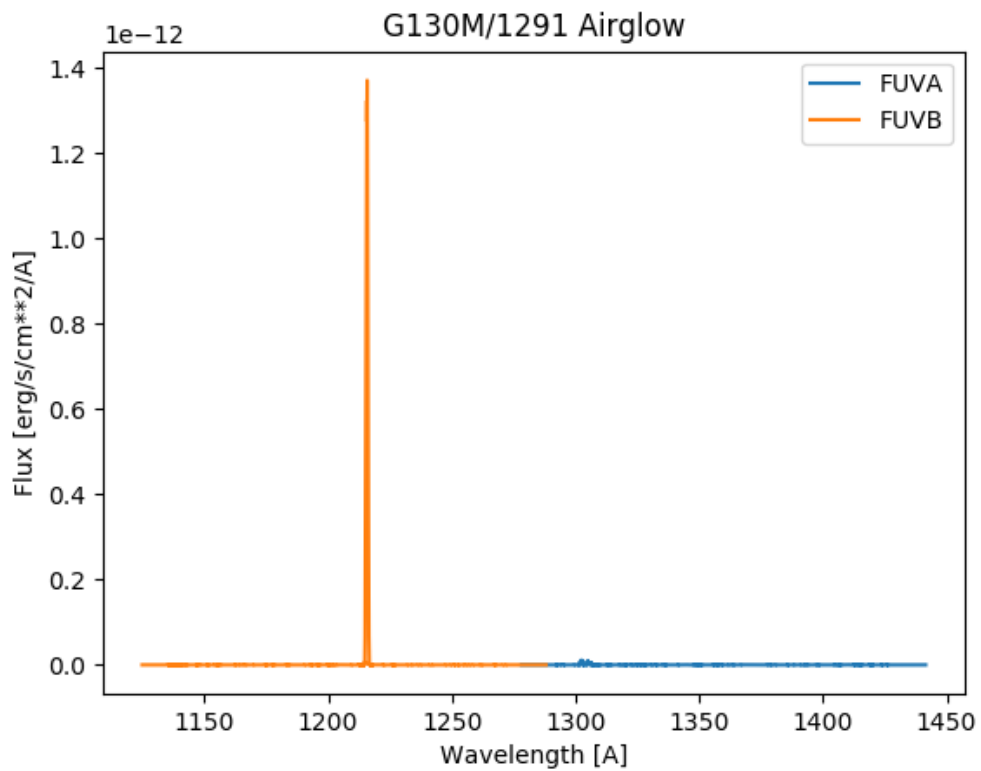


Figure 2. G130M/1291 example, LD1CE3060, with segments highlighted. Ly α airglow is seen at 1215.6702 Å and Oxygen airglow at 1302.1685 Å (O I), 1304.8576 Å (O I*) and 1306.0286 Å (O I**)