

Payload 1 Daily Flight Report



Date: 2024-05-03

Flight Campaign ID: P1C1

Airport, FBO ID, City: Boulder Municipal Airport (KBDU) - Boulder, CO

Aircraft: N615AR

Domain: 00 (Training & Calibration)

Sites Flown: N10F (Nominal Runway at KBDU - Galaxy)

Days left in Domain: 9

Report Author: Mike

Lidar Operators: Mike **Flight Hours**: 03:00

Spectrometer Operators: Elissa Hours until maintenance: 115.18

Pilots: Jeff, Shane GPS Instruments: AOP_KBDU

Ground Crew: Matt

Summary

The Nominal Runway calibration flight was completed in entirety today, including the high altitude and previously flown lines. While it was completed, the flight was not without issues. We experienced repeated NIS framegrabber and HSI timestamp errors as well as a temporary lockup of the of the IWR4 digitizer.

Concerns

The IWR4 digitizer readouts (disk space used and pulse wave window) stopped populating towards the end of the flight. The digitizer was shut down through the software and rebooted with the switch on the outside of the box. After a few minutes there was reconnection within the software and readouts populated and appeared to be collecting data. There was a GPS/PPS error, for the digitizer only, after reconnection was made. The data should be investigated for validity.

Comments

None.

Daily Coverage

Estimated Cloud Cover Key

Estimated clodd cover hey												
Green:	Yellow:	Red:										
0-10%	11-50%	>50%										

Solar Angle Less Than 40 degrees

Line #

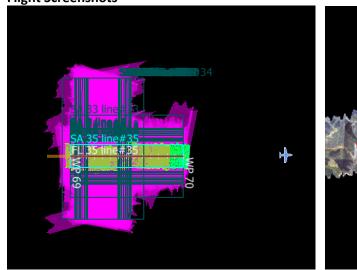
D00|N10F

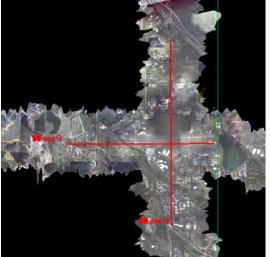
Line #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Lidar	✓	✓	√	✓	✓	✓	√	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	√	✓	✓
Spectrometer	✓			✓	✓	✓	√	✓	✓	✓	✓			✓	✓	✓	✓	√	✓	
Camera	√	√	√	√	✓	√	√	√	√	✓	✓	√	√	✓	√	√	✓	√	√	√

Cloud Cover																	
Line #	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Lidar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spectrometer													√				
Camera	✓	√	√	✓	✓	√	√	√	√	√	✓	√	√	√	✓	✓	√
Cloud Cover																	

Total number of lines flown: 37

Flight Screenshots





Lidar NIS

Pictures



National Center for Atmospheric Research (NCAR) building sitting below the Flatirons. Photo by Mike.

Cumulative Domain Coverage

D00 B10F (Complete Greeley Boresight Geocalibration - 1500m, 1000m, 550m - Galaxy)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Flown: 100% (20/20) Green: 10% (2/20) Yellow: 90% (18/20) Red: 0% (0/20)

D00 BLKF (Black Forest Waveform Range Test - Galaxy)

	-1 (-10																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

21

Flown: 0% (0/21) Green: 0% (0/21) Yellow: 0% (0/21) Red: 0% (0/21)

D00 | CPER (Central Plains Ecological Range)

		٠,				_		0,											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28												

Flown: 0% (0/28) Green: 0% (0/28) Yellow: 0% (0/28) Red: 0% (0/28)

D00 | H10D (NEON Headquarters Lidar Validation - Galaxy)

1 2 3 4

Flown: 100% (4/4) Green: 0% (0/4) Yellow: 100% (4/4) Red: 0% (0/4)

D00 N10F (Nominal Runway at KBDU - Galaxy)

																	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		

Flown: 100% (37/37) Green: 0% (0/37) Yellow: 43% (16/37) Red: 57% (19/37)

D00 | O10C (NIS Offset - Galaxy)

1 2

Flown: 0% (0/2) Green: 0% (0/2) Yellow: 0% (0/2) Red: 0% (0/2)

D00 | R10E (Table Mountain Radiometric Calibration - Galaxy)

1 2 3 4 5

Flown: 0% (0/5) Green: 0% (0/5) Yellow: 0% (0/5) Red: 0% (0/5)

D00 V10F (Boulder City Nominal - Galaxy)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29											

Flown: 0% (0/29) Green: 0% (0/29) Yellow: 0% (0/29) Red: 0% (0/29)

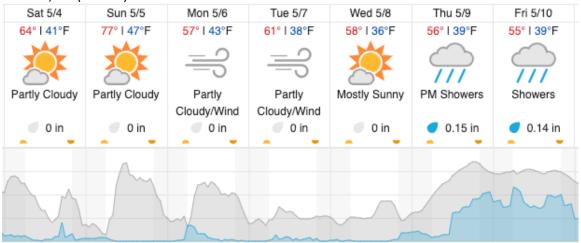
D00 | W10D (Wiggle Timing Test - Galaxy)

1 2

Flown: 100% (2/2) Green: 0% (0/2) Yellow: 100% (2/2) Red: 0% (0/2)

Weather Forecast

Boulder, CO (Cal Flts)



Flight Collection Plan for May 4th 2024

Flyority 1

Collection Area: Table Mountain Radiometric Calibration

Flight Plan Name: D10_R10E_Radiometric_Cal_Table_Mtn_v2_PRM.xml

45° On-station Time: 16:10 UTC / 09:10 L

Additional Considerations: Ground should be dry.

Flyority 2

Collection Area: Boulder City Nominal Science Flight - Multiple PRFs

Flight Plan Name: D10_V10F_Boulder_City_v10_PRM.xml

40° On-station Time: 15:50 UTC / 09:50 L

Flyority 3

Collection Area: Central Plains Ecological Range – 1000 kHz PRF test flight

Flight Plan Name: D10_CPER_C1_P1_v7_PRM_maxPRF_test.xml

35° On-station Time: 15:20 UTC / 09:20 L

Flyority 4

Collection Area: Black Forest Waveform Range Test Flight Flight Plan Name: D10_BLKF_Black_Forest_v4_PRM.xml On-Station Time: Daylight – No solar angle restrictions.

Flyority 5

Collection Area: NIS Offset Flight

Flight Plan Name: D10_O10C_NIS_Offset_v3_PRM.xml

35° On-station Time: 15:20 UTC / 08:20

Flight Crew

Elissa (Lidar), Matt (NIS), Mike (Ground)