

Review of “The Aerosol Characterization from Polarimeter and Lidar (ACEPOL) airborne field campaign” by Knobelspiesse et al.

General:

This manuscript documents collection of atmospheric aerosols using 4 polarimeters and 2 lidars onboard ER-2 during ACEPOL. The CPL lidar has a horizontal resolution of about 200m and a vertical resolution of 30m, while the HSRL\_2 has a horizontal resolution of 1-2 km, and a vertical resolution of 15m.

The 4 polarimeters onboard ER-2 contains spatial sampling from about 42.9 km, 9 km, 280 m per pixel, to 6-degree cross track. The resolutions range from about 10 m at ground to 1 km.

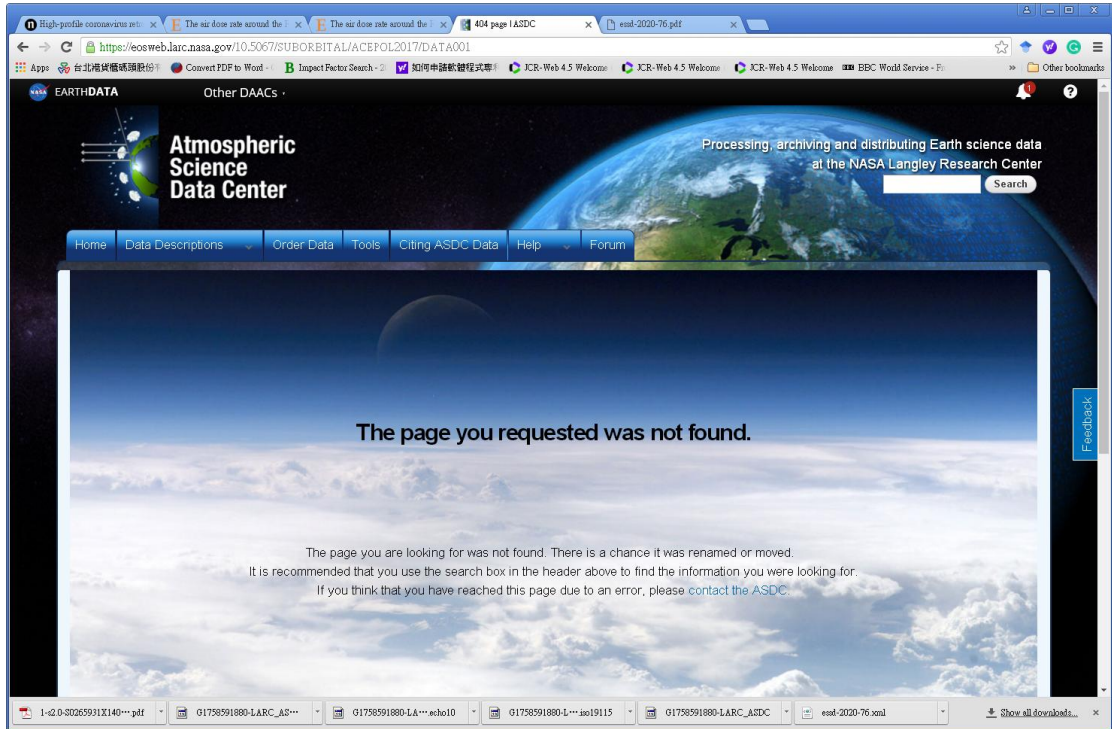
There were 9 ACEPOL flights conducted in October-November 2017. Dates of calibration of ACEPOL data were described in Table 2. There are 9 days with calibration days specified: 10/19, 10/23, 10/25, 10/26, 10/27, 11/01, 11/03, 11/07, 11/09.

Test of data accessibility (see below) indicates that the data is not user friendly. Please refer to the NASA GTE project, which contains lots of flights of data. The GTE data are very easy to use and user friendly.

Comments:

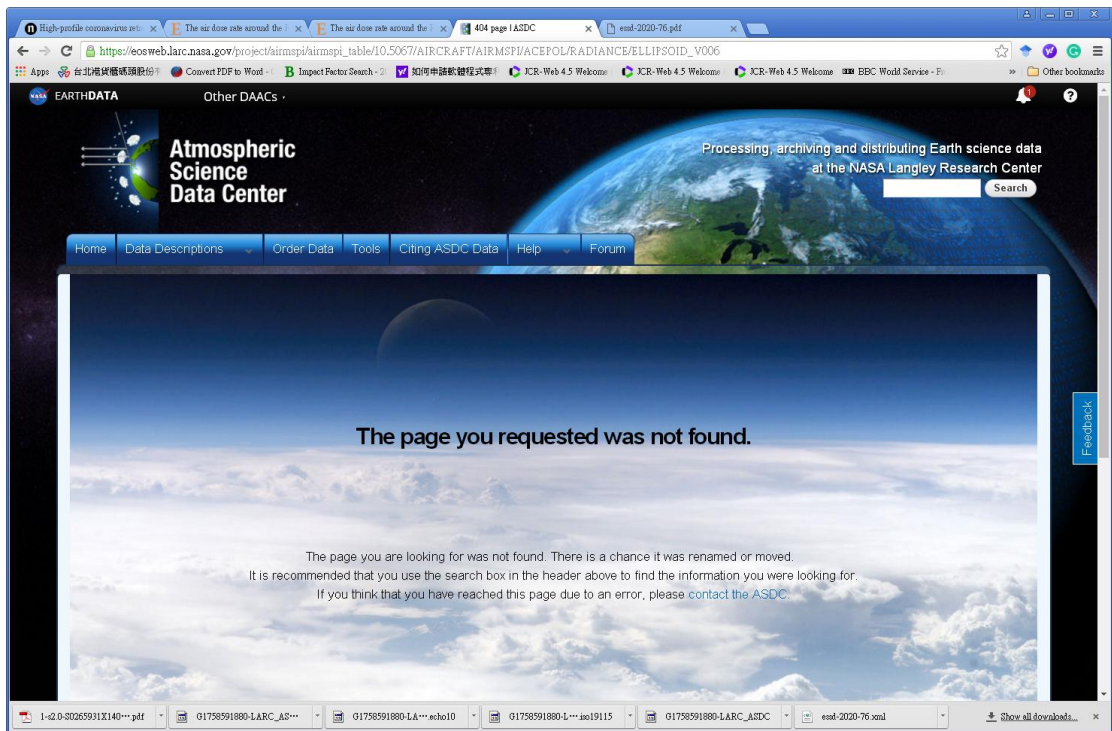
1. Calibrations: The calibrations effect, before and after the calibration of the observational data, is not clear. The details of flights are outlined in Table 4. Please provide results (in figures, etc) comparing raw data with the calibrated data.
2. What are the variables observed during the 9 flights? What are the time resolution of data of each observed variable?
3. Test of data accessibility from Table 3:

ASDC: <https://eosweb.larc.nasa.gov/10.5067/SUBORBITAL/ACEPOL2017/DATA001>

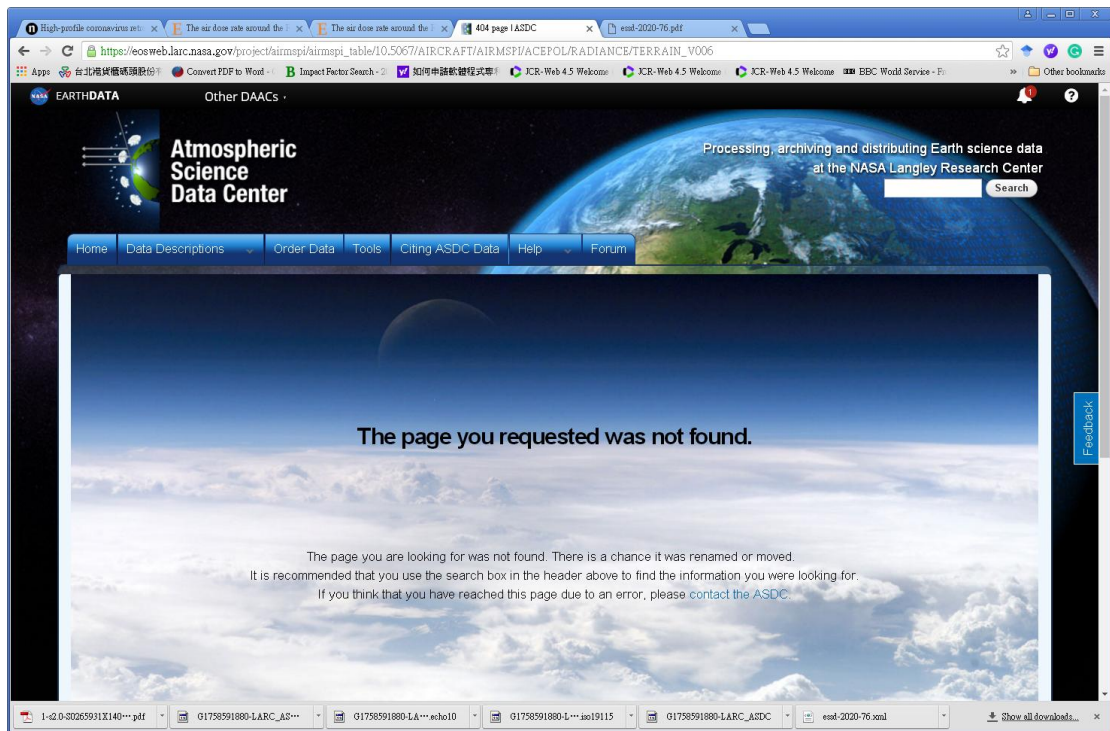


AirMSPI

[https://eosweb.larc.nasa.gov/project/airmspi/airmspi\\_table/10.5067/AIRCRAFT/AIRMSPI/ACEPOL/RADIANCE/ELLIPSOID\\_V006](https://eosweb.larc.nasa.gov/project/airmspi/airmspi_table/10.5067/AIRCRAFT/AIRMSPI/ACEPOL/RADIANCE/ELLIPSOID_V006)

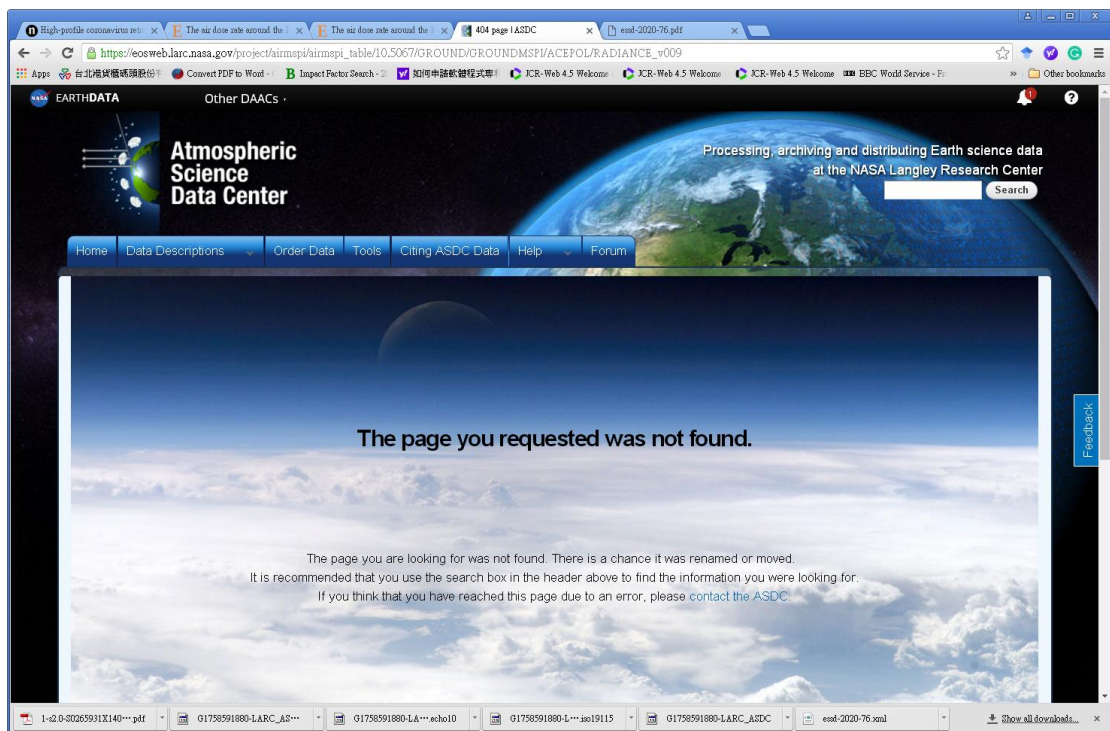


[https://eosweb.larc.nasa.gov/project/airmspi/airmspi\\_table/10.5067/AIRCRAFT/AIRMSPI/ACEPOL/RADIANCE/TERRAIN\\_V006](https://eosweb.larc.nasa.gov/project/airmspi/airmspi_table/10.5067/AIRCRAFT/AIRMSPI/ACEPOL/RADIANCE/TERRAIN_V006)



GroundMSPI :

[https://eosweb.larc.nasa.gov/project/airmspi/airmspi\\_table/10.5067/GROUND/GROUNDMSPI/ACEPOL/RADIANCE\\_v009](https://eosweb.larc.nasa.gov/project/airmspi/airmspi_table/10.5067/GROUND/GROUNDMSPI/ACEPOL/RADIANCE_v009)

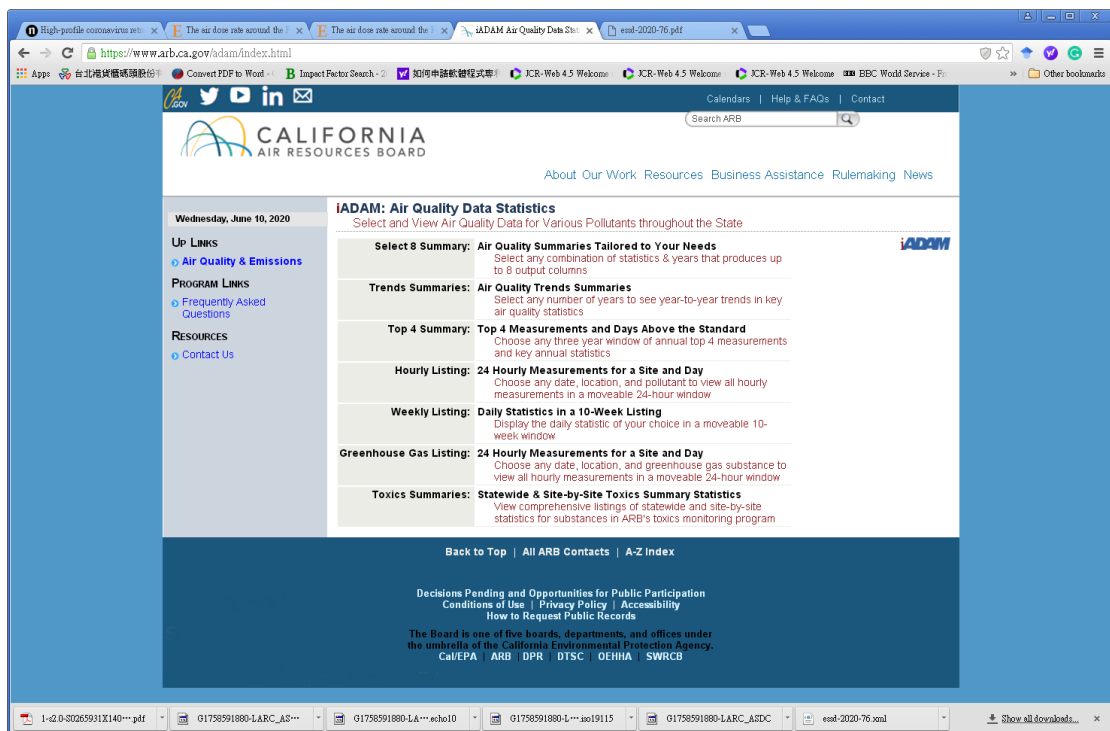


AERONET <https://aeronet.gsfc.nasa.gov/>



Q: Where to find data relevant to the calibration of the 9 ER-2 flights described in Table 2?

CARB <https://www.arb.ca.gov/adam/index.html>



Q: Where to get data relevant to 9 ER-2 flights in this work from this page?

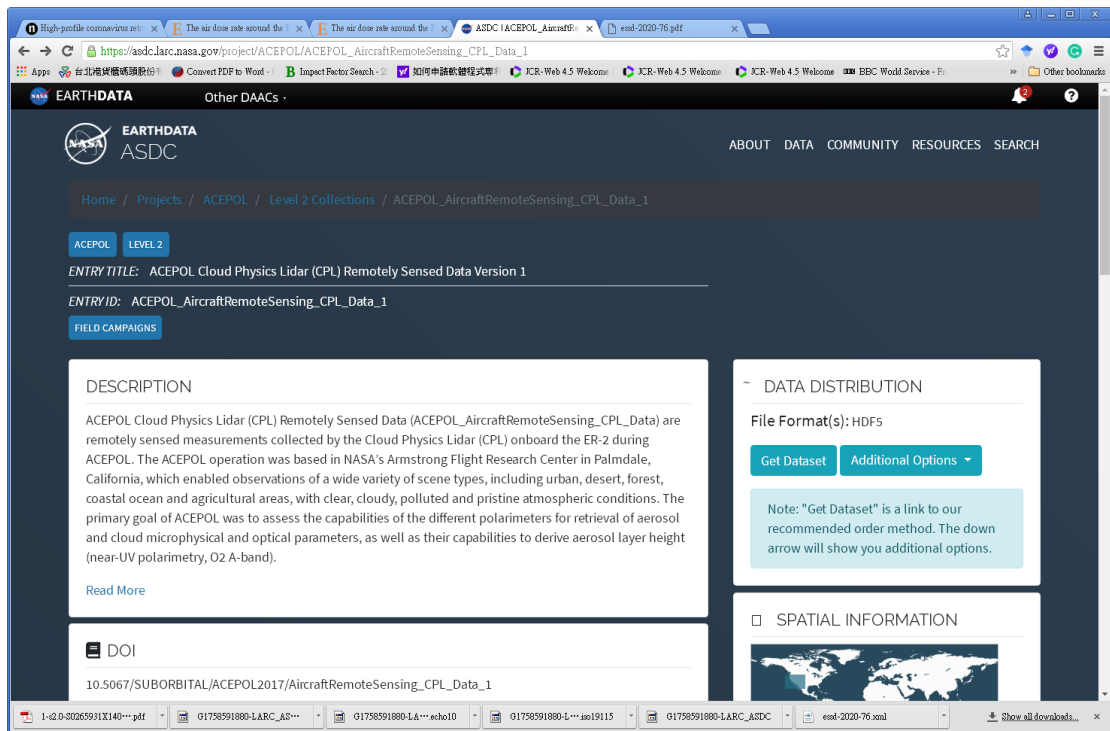
4. Test of data accessibility from Abstract and reference ACEPOL Science Team, 2017:

doi:10.5067/SUBORBITAL/ACEPOL2017/DATA001

Test results: I was not able to find data from input above line to google.

But I was managed to find data from following link:

[https://asdc.larc.nasa.gov/project/ACEPOL/ACEPOL\\_AircraftRemoteSensing\\_CPL\\_Data\\_1](https://asdc.larc.nasa.gov/project/ACEPOL/ACEPOL_AircraftRemoteSensing_CPL_Data_1)



After trying to Get Dataset, with OPENDATA selected in Additional Options, following page popped up:

The screenshot shows the Earthdata search interface. The search results are as follows:

Granule ID	START	END
ACEPOL-CPL-L1B_ER2_20171109_R1h5	2017-11-09 00:00:00	2017-11-09 23:59:59
ACEPOL-CPL-L2-LAV_ER2_20171109_R1h5	2017-11-09 00:00:00	2017-11-09 23:59:59
ACEPOL-CPL-L2-PRO_ER2_20171109_R1h5	2017-11-09 00:00:00	2017-11-09 23:59:59
ACEPOL-CPL-L1B_ER2_20171107_R1h5	2017-11-07 00:00:00	2017-11-07 23:59:59
ACEPOL-CPL-L2-LAV_ER2_20171107_R1h5	2017-11-07 00:00:00	2017-11-07 23:59:59
ACEPOL-CPL-L2-PRO_ER2_20171107_R1h5	2017-11-07 00:00:00	2017-11-07 23:59:59
ACEPOL-CPL-L1B_ER2_20171103_R1h5	2017-11-03 00:00:00	
ACEPOL-CPL-L2-LAV_ER2_20171103_R1h5		

The interface also includes a map of the region and a timeline view at the bottom showing the data from July to June.

Even in here, it is still unclear where and how to view the flight data?