



ARM

CLIMATE RESEARCH FACILITY



Updates on ACE-ENA Measurements and Data

Jason Tomlinson



U.S. DEPARTMENT OF
ENERGY

Office of
Science

ACE-ENA Data Stats

- IOP1
 - 20 Research Flights
 - ~77 hours of data collected
- IOP2
 - 19 Research Flights
 - ~75 hours of data collected

ACE-ENA IOP1

ACE-ENA	IOP1 Deadline: 1/31/2017, IOP2 Deadline: 08/31/2018		
Instrument/Data Product	Responsible Party	ARM Data Discovery	Notes
PCASP	Tomlinson	Available at ARM website	DMF ingest
Video Camera	Matthews	Available at ARM website	OME IOP data
CAPS(CAS)	Tomlinson	Available at ARM website	OME IOP data, DMF ingest
CAPS(CIP)	Tomlinson	Available at ARM website	OME IOP data, DMF ingest
Radiometer	Long, Matthews, Hubbe	Available at ARM website	OME IOP data, DMF ingest
CPC-CVI	Mei	Discoverable	OME IOP data, DMF ingest
CPC-IsoK	Mei	Discoverable	OME IOP data, DMF ingest
CCNc	Mei	Discoverable	DMF ingest
FCDP	Mei	Available at ARM archive	OME IOP data
2DS	Matthews, Mei	Available at ARM archive	OME IOP data
HVPS	Matthews, Mei	Available at ARM archive	OME IOP data
WCM	Matthews, Hubbe, Mei	Available at ARM archive	OME IOP data
Trace Gases (CO)	Springston	Discoverable	DMF ingest
Trace Gases (Ozone)	Springston	Discoverable	DMF ingest
CVI	Pekour	Discoverable	DMF ingest
OPC-isok	Pekour	Available at ARM archive	OME IOP data
OPC-cvi	Pekour	Available at ARM archive	OME IOP data
TDL	Pekour	Available at ARM archive	OME IOP data
IWG1	Mei	Available at ARM archive	OME IOP data, DMF ingest
AIMMS-20 20 hz data	Matthews	Available at ARM archive	OME IOP data
PSAP	Pekour and Flynn	Discoverable	DMF ingest
Neph	Pekour and Flynn	Discoverable	DMF ingest
SP2	Sedlacek	Discoverable	DMF ingest
PI instruments			
HR-Tof-AMS	Shilling	Available at ARM archive	OME IOP data
PTR-MS	Shilling	Available at ARM website	OME IOP data
HOLODEC	Shaw	Available at ARM archive	OME IOP data (10% of all data as per contract)
PILS	Weber	Available at ARM archive	OME IOP data (date will be refined further)
FIMS	Wang	Available at ARM archive	OME IOP data
TRAC	Laskin	Available at ARM archive	OME IOP data

ACE-ENA IOP2

- All data will be submitted by the end of August (6 months from end of IOP2)
 - Some data sets will appear before
- Known failure
 - f-FSSP (2-50 μm)
 - Ternary system. f-CDP is primary and CAS will be secondary
 - Fogged windows and tip heater failure. Team tried everything to fix in the field with only minor success. Most data will not be recoverable.

Updates and New products

- Successful AIMMS-20 calibration will be used to correct data from IOP1 and IOP 2 (*Matthews*)

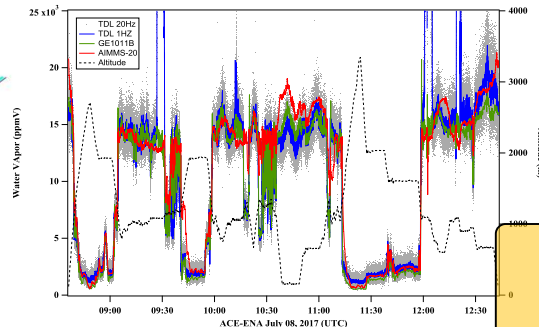
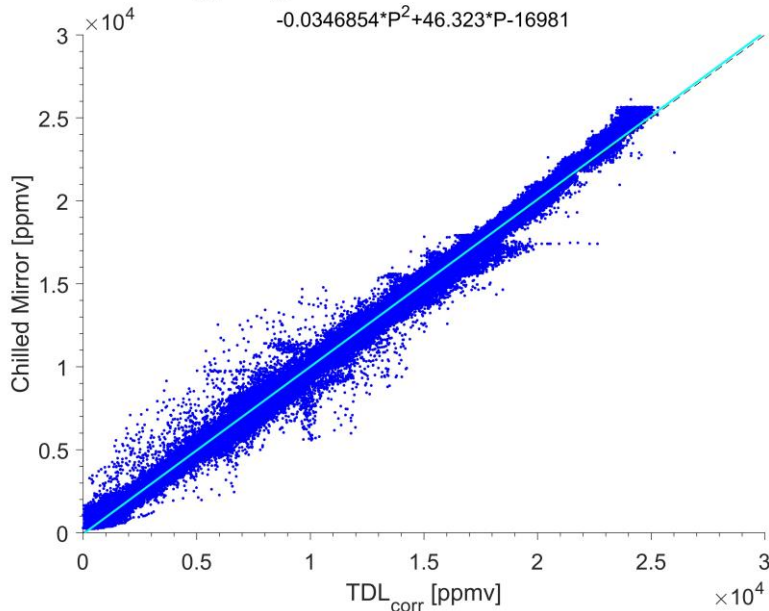


Updates and New products

- 20 Hz water vapor data available from TDL (*Pekour*)

ACE-ENA, 1 s average: ChMirror=+1.008*TDL-71.7413
Correlation=0.9969 RMSD=476.6 N=179009
Final pressure correction applied:

$$TDL_{corr} = TDL_{rev} * (+5.39982e-06 * P^2 - 0.00716472 * P + 3.49993) - 0.0346854 * P^2 + 46.323 * P - 16981$$



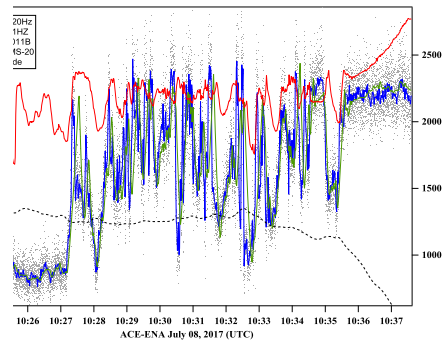
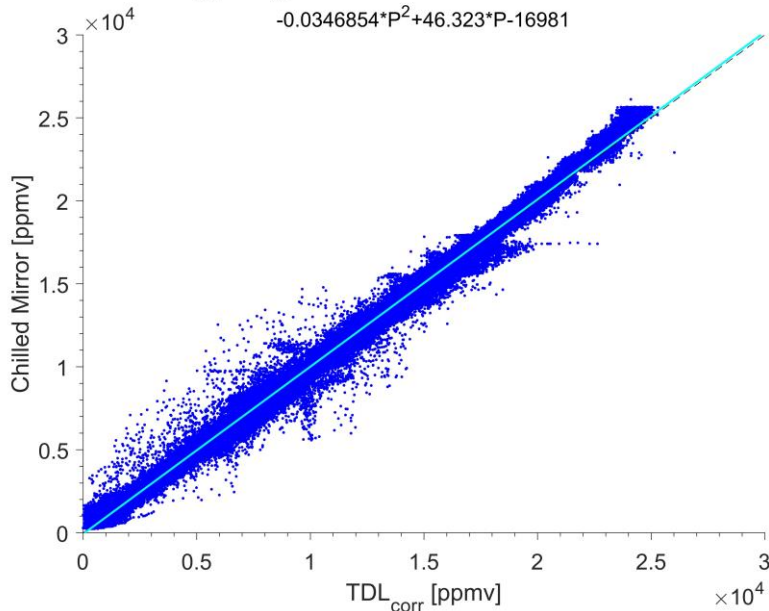
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Updates and New products

- LWC
 - WCM, PVM, and CAPS Hot Wire (King) (*Mei, Matthews, Tomlinson*)
- Fast Response Temperature
 - 50-Hz ambient temperature (*Pekour*)
- f-CDP
 - 10-Hz Available (*Mei*)
- CAS
 - DPOL data set almost ready to be released (*Goldberger/Tomlinson*)