Data treatment applicable to Hippo data

H1-H3:

- In-flight Calibration scheme: single working standard; zero measurement using catalytic removal of ambient CO; sequence frequency of 1-2 per hour.
- Time dependent sensitivity and zero offset from linear interpolation between calibrations.
- Working standard analyzed pre- and post-project using multiple CCGG primaries.

H1:

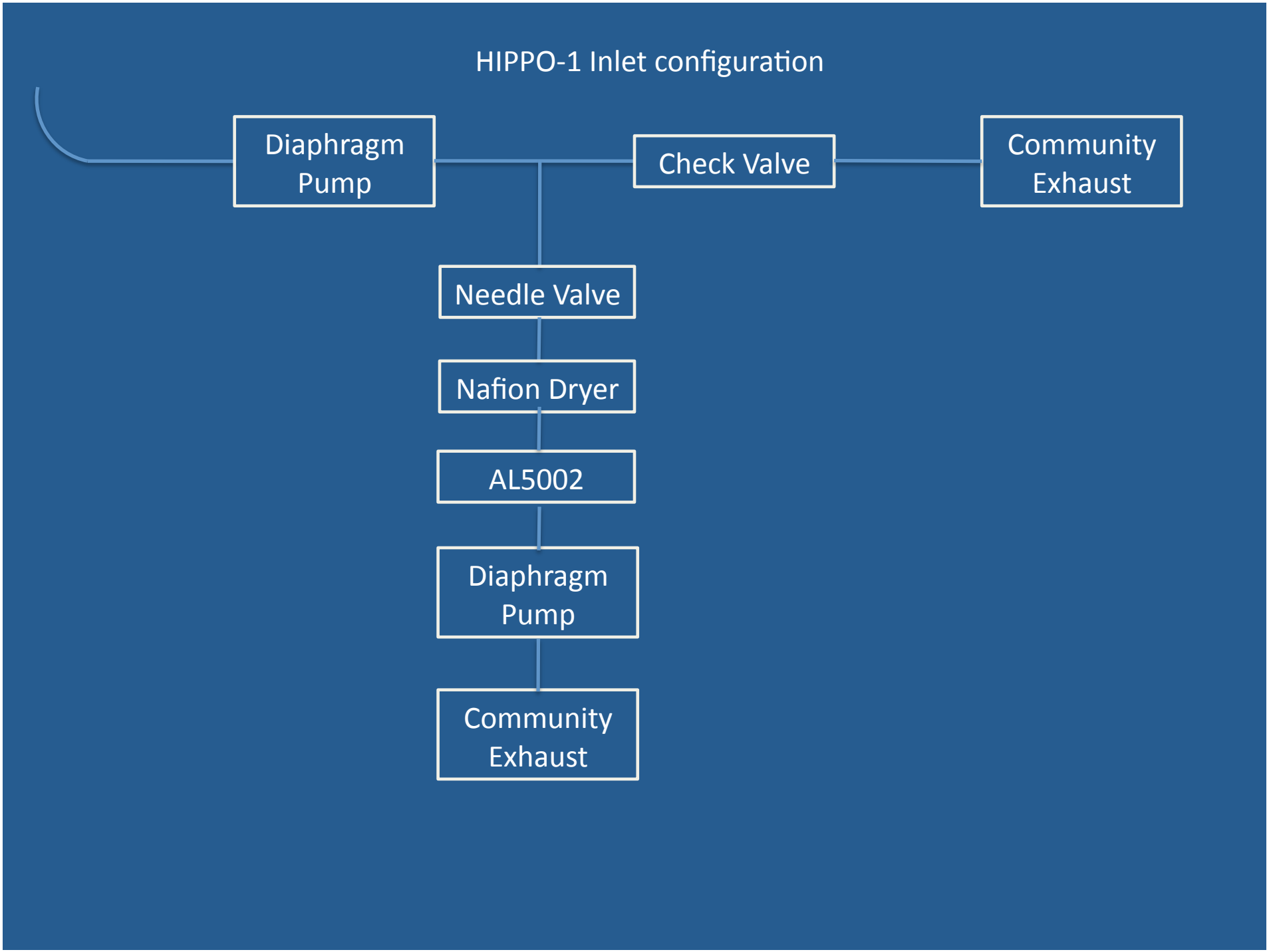
- Different inlet configuration from other intensives. Inferior time responsegf.

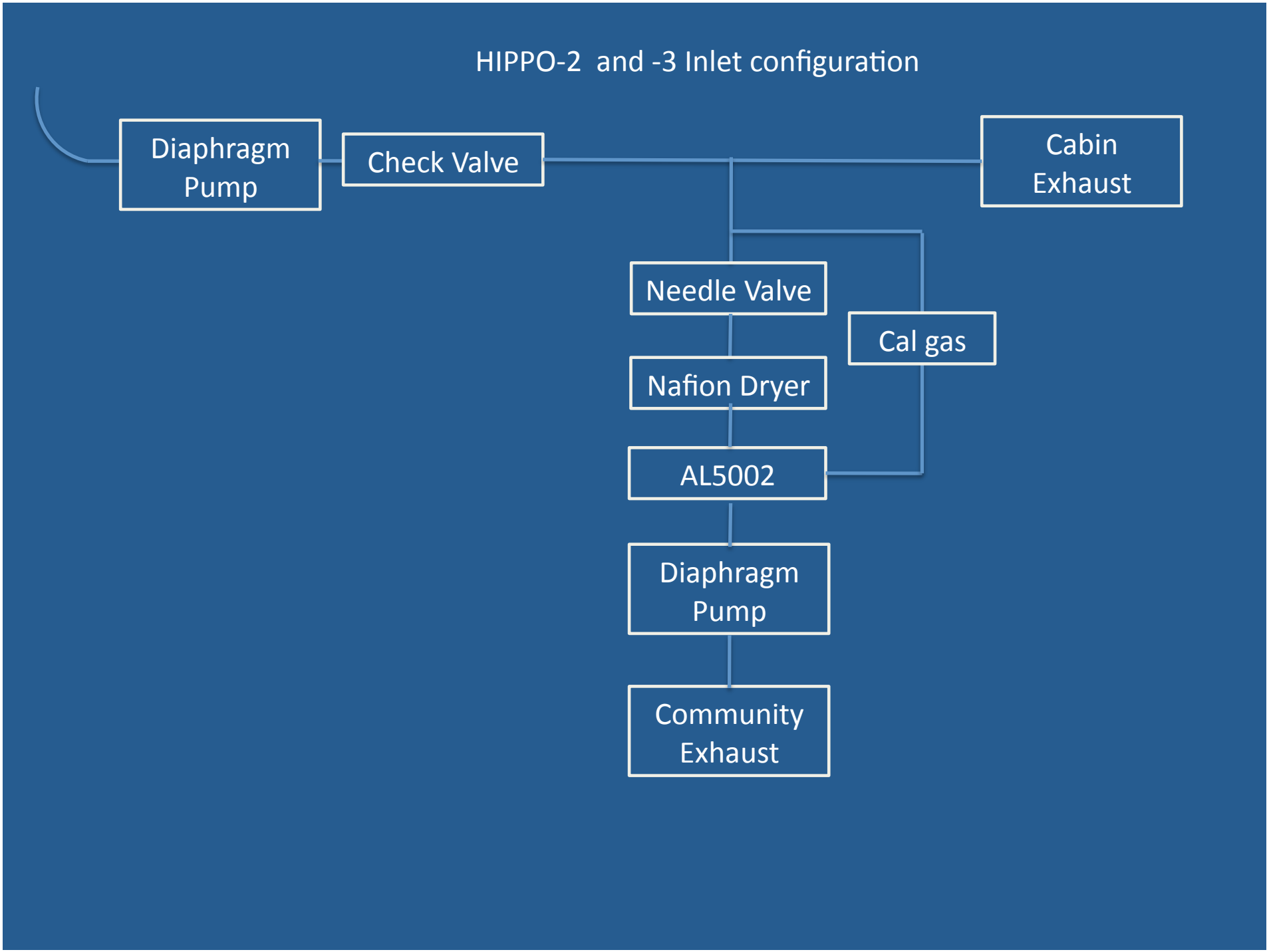
H2:

- Time base of H-2 version '01' final data was not shifted to match other sensors.
- Version '02' data shifted to align centers of QCL and VUV CO signals.
- Pre-flight and 1-2 point anomalous spikes removed using a median filter

H3:

- No major hardware or software changes.


HIPPO-1 Inlet configuration
Diaphragm Pump
Check Valve
Community Exhaust
Needle Valve
Nafion Dryer
AL5002
Diaphragm Pump
Community Exhaust


HIPPO-2 and -3 Inlet configuration
Diaphragm Pump
Check Valve
Cabin Exhaust
Needle Valve
Cal gas
Nafion Dryer
AL5002
Diaphragm Pump
Community Exhaust

Summary of HIPPO-2 Data

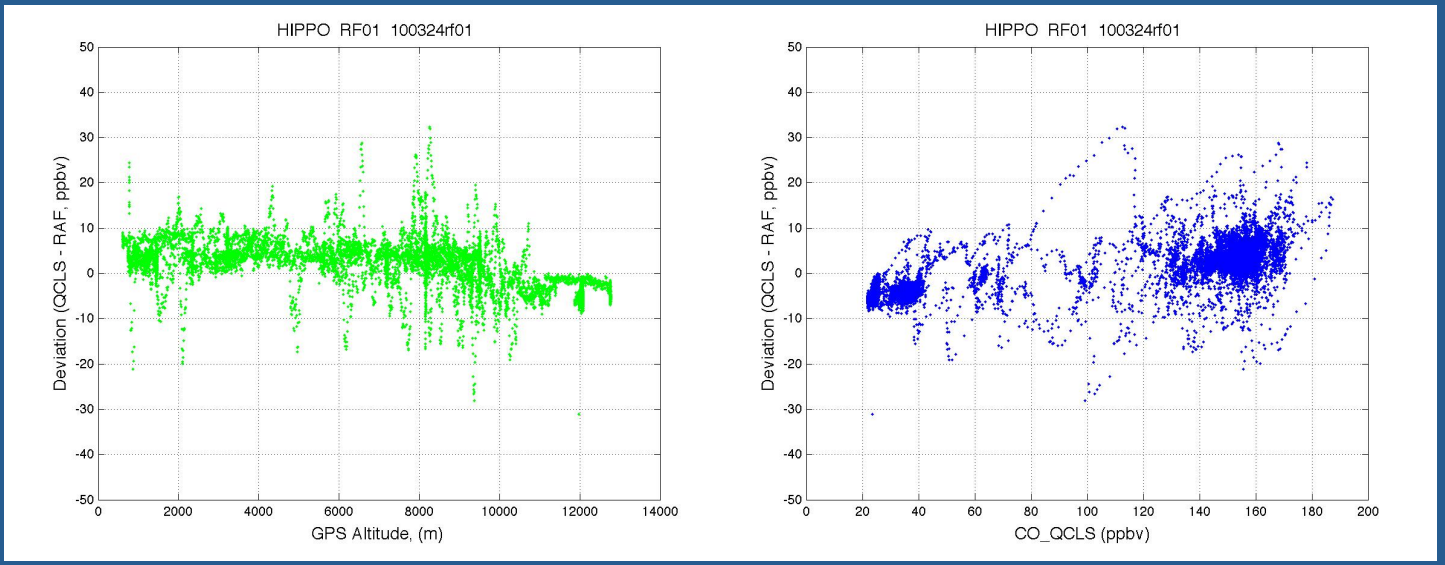
Flt #	RMS Difference (Quicklook QCL-VUV)	Version 01 -> 02 changes: Time base shift	despike (median filter) window:
1	4.1 ppbv	+4 s	4
2	11.6	-10	3
3	9.5	-11	3
4	4.0	-15	3
5	4.2	-14	4
6	3.7	-9	4
7	6.0	-25	3
8	4.9	-13	3
9	9.8	-10	3
10	11.0	-15	3

HIPPO-3 data status: quicklook only available at this time.
Reasonable agreement already with QCL:

H-2 Flt #	RMS Difference (Quicklook QCL-VUV)
1	4.1 ppbv
2	11.6
3	9.5
4	4.0
5	4.2
6	3.7
7	6.0
8	4.9
9	9.8
10	11.0

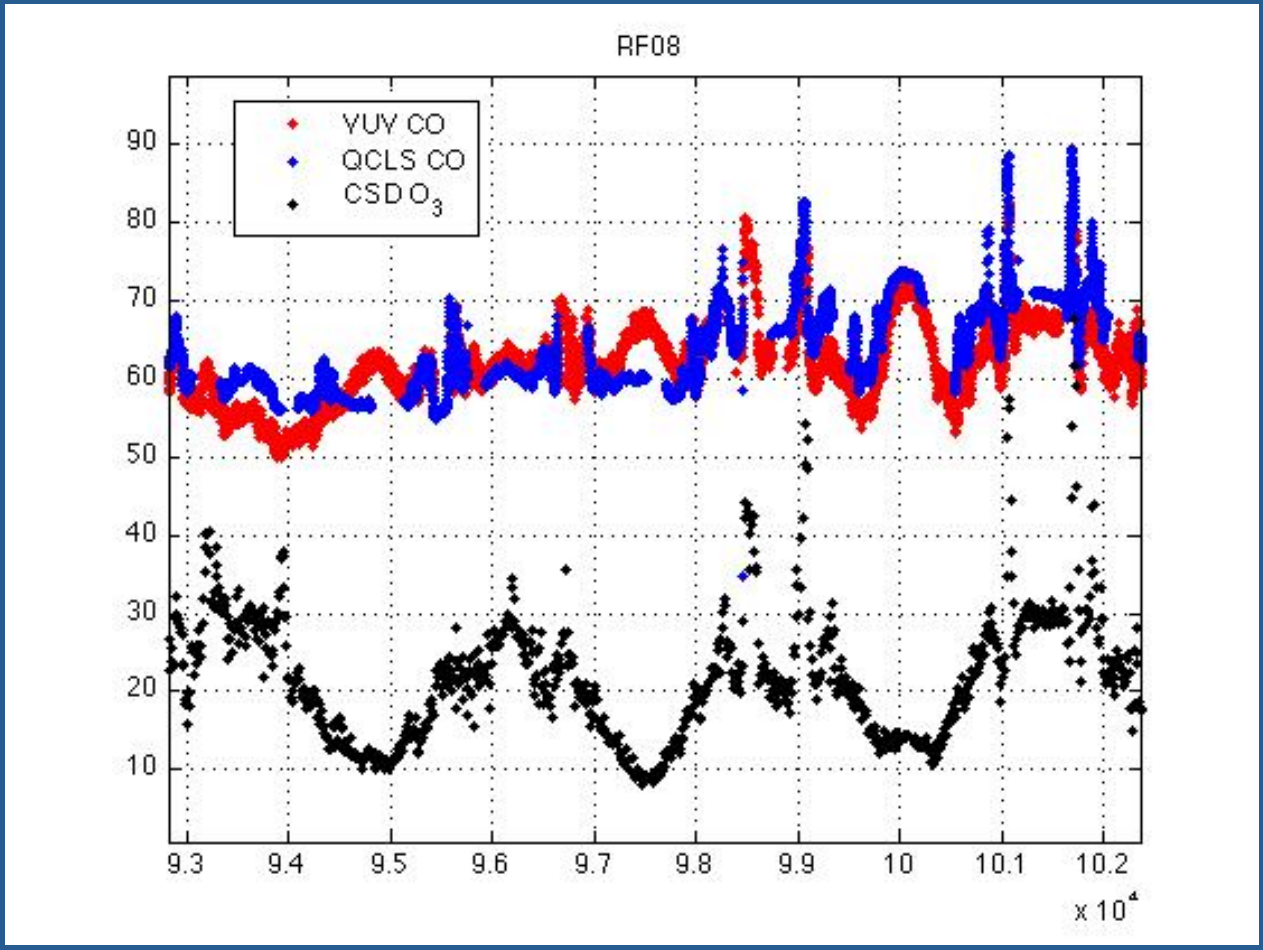
H-3 Flt #	RMS Difference (Quicklook QCL-VUV)
1	5.2 ppbv
2	13.9
3	12.8
4	7.2
5	1.2
6	1.1
7	1.3
8	2.3
9	6.2
10	5.2

- Remaining differences between QCL and VUV point toward a couple of possibilities:
  - differences in time response (VUV slower) and inadequate time synchronization
  - calibration slope difference



HIPPO-2 comment:

A few of the boundary layer dips in H-2 RF08 display QCL-VUV instrumental differences that are small in magnitude but which result in different vertical profiles. Not all flights contain instances of these differences. The cause of this difference is not understood.



Pokédex data

Hippopotas - Hippo Pokémon		
No.	**Height**	**Weight**
449	2'07" (0.8 m)	109.1 lbs. (49.5 kg)
Pokédex entry		
It lives in arid places. Instead of perspiration, it expels grainy sand from its body.		
かんそうした とちで くらす。あせの かわりに すなつぶを からだから ぶんぴつする ポケモン。