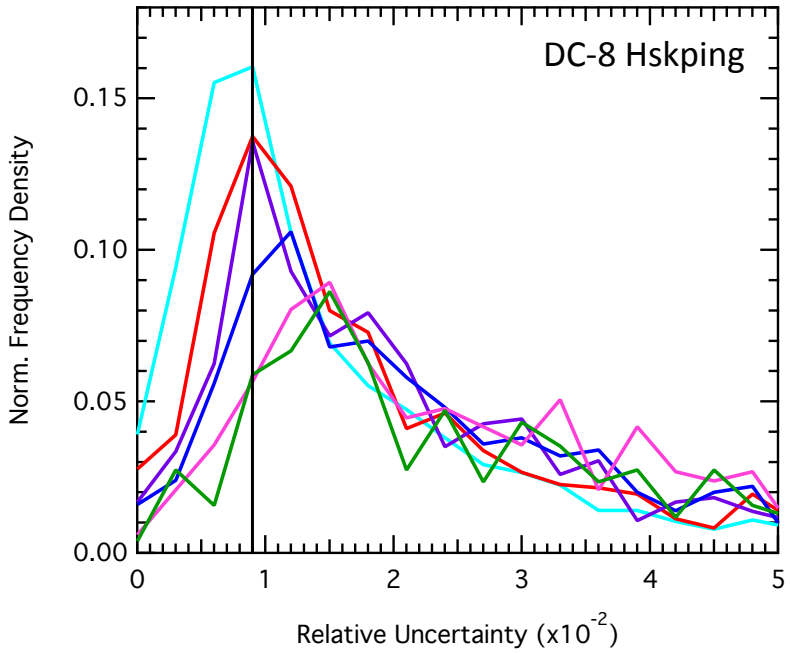
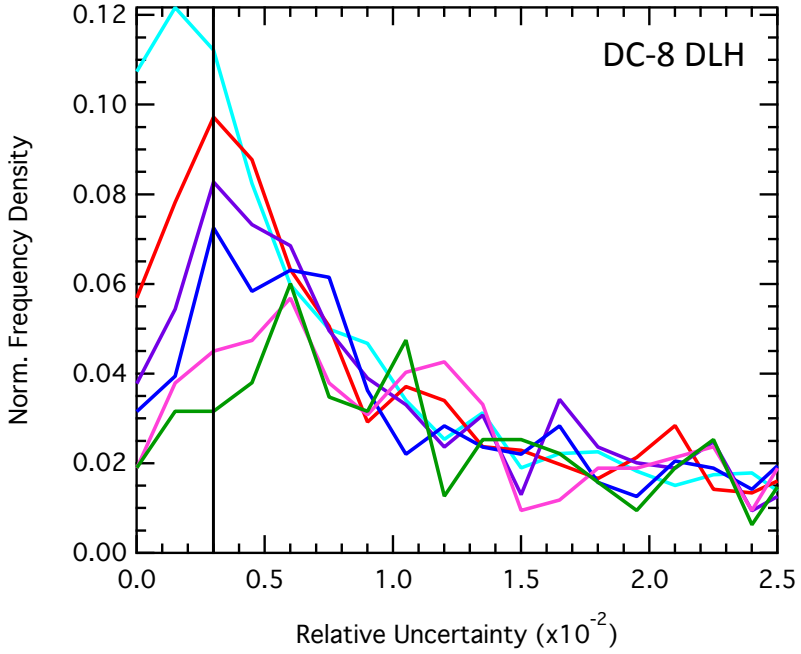
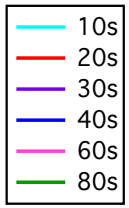
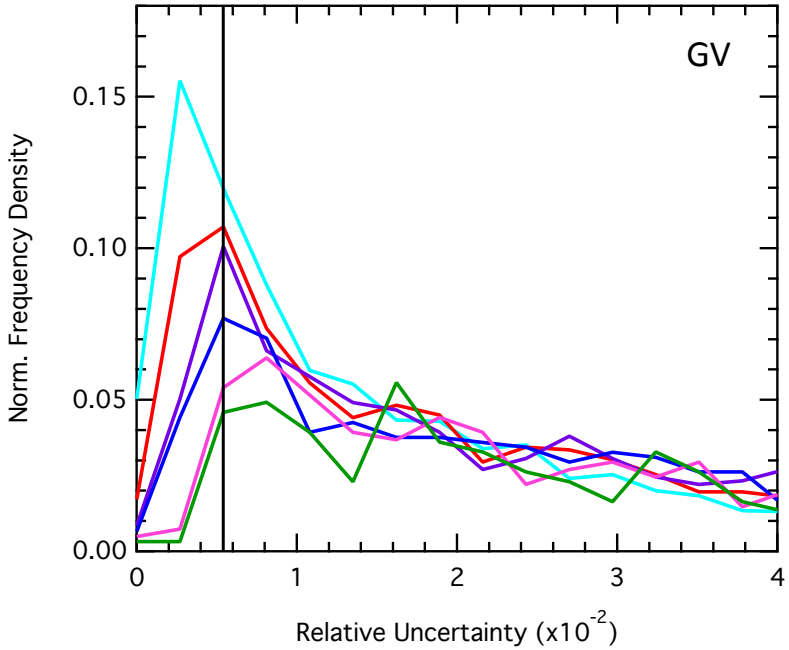
$H_2O$

05/25/12


DC-8 Hskping
Norm. Frequency Density
0.00
0.05
0.10
0.15
0
1
2
3
4
5
Relative Uncertainty (x10$^{-2}$)

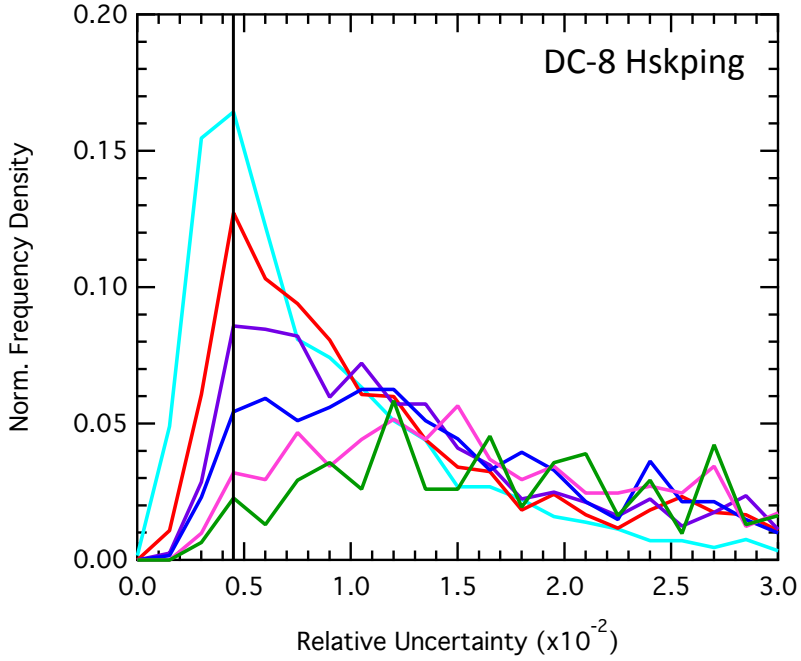

DC-8 DLH
Norm. Frequency Density
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.0
0.5
1.0
1.5
2.0
2.5
Relative Uncertainty (x10$^{-2}$)

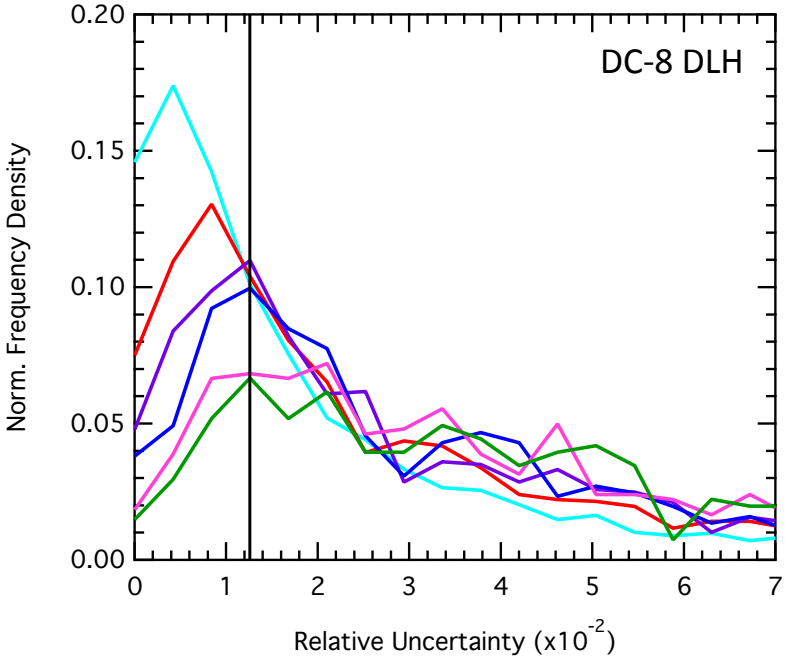

10s
20s
30s
40s
60s
80s

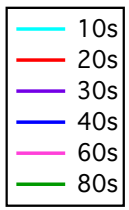

GV
Norm. Frequency Density
0.00
0.05
0.10
0.15
0
1
2
3
4
Relative Uncertainty (x10$^{-2}$)

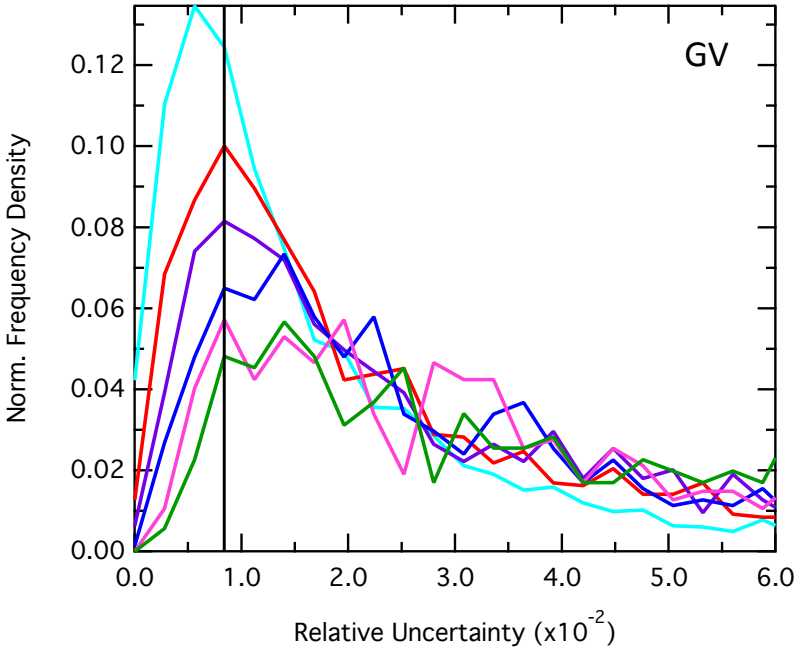
$H_2O$

05/30/12


DC-8 Hskping
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.20
0.0
0.5
1.0
1.5
2.0
2.5
3.0

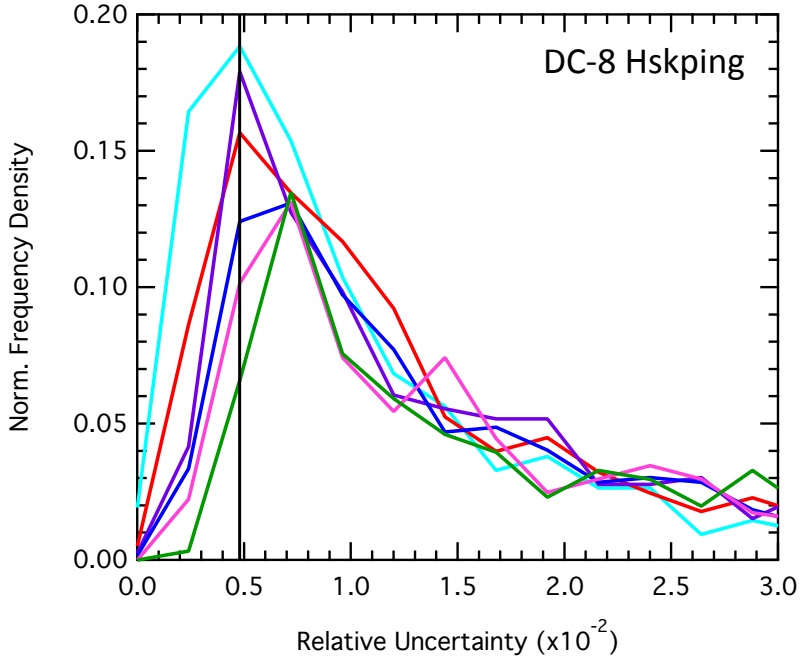

DC-8 DLH
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.20
0
1
2
3
4
5
6
7

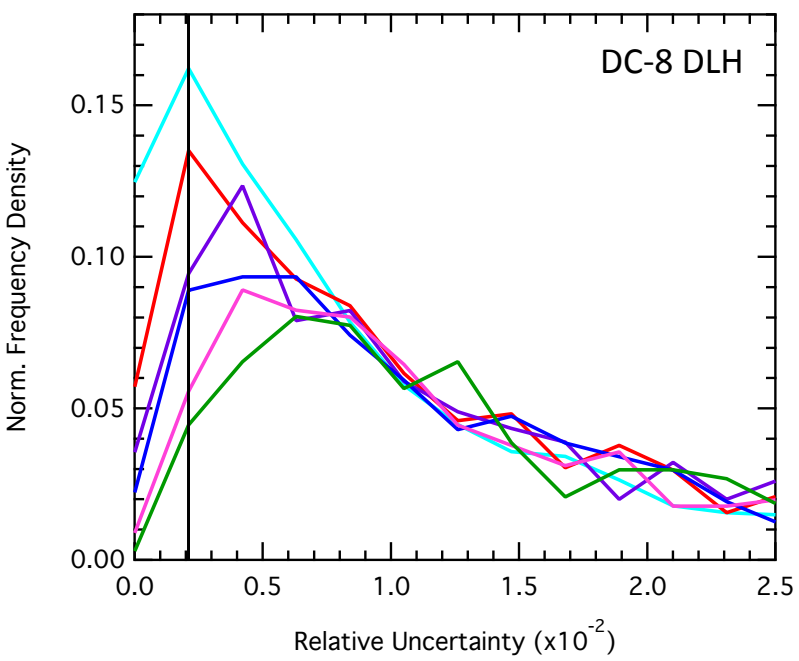

10s
20s
30s
40s
60s
80s

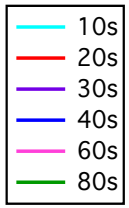

GV
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.0
1.0
2.0
3.0
4.0
5.0
6.0

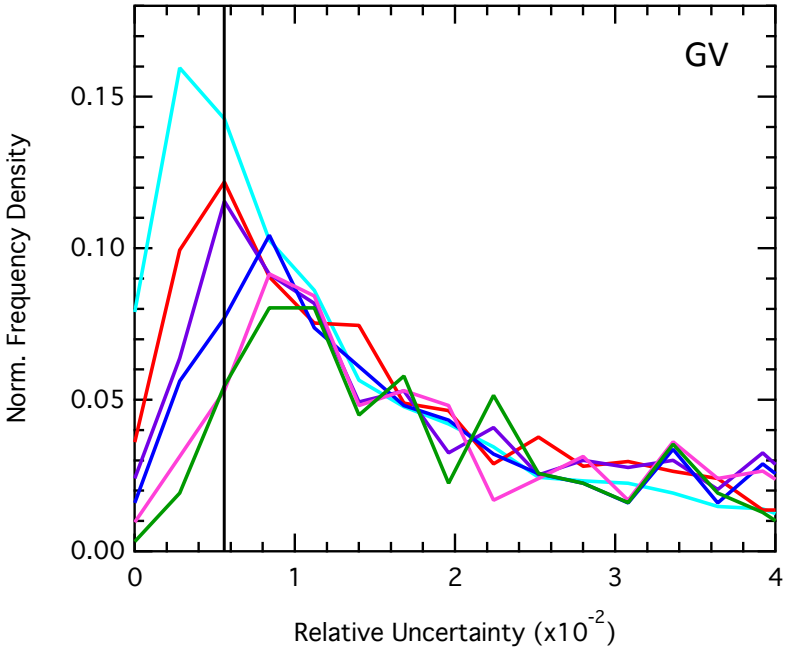
$H_2O$

06/01/12


DC-8 Hskping
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.20
0.0
0.5
1.0
1.5
2.0
2.5
3.0

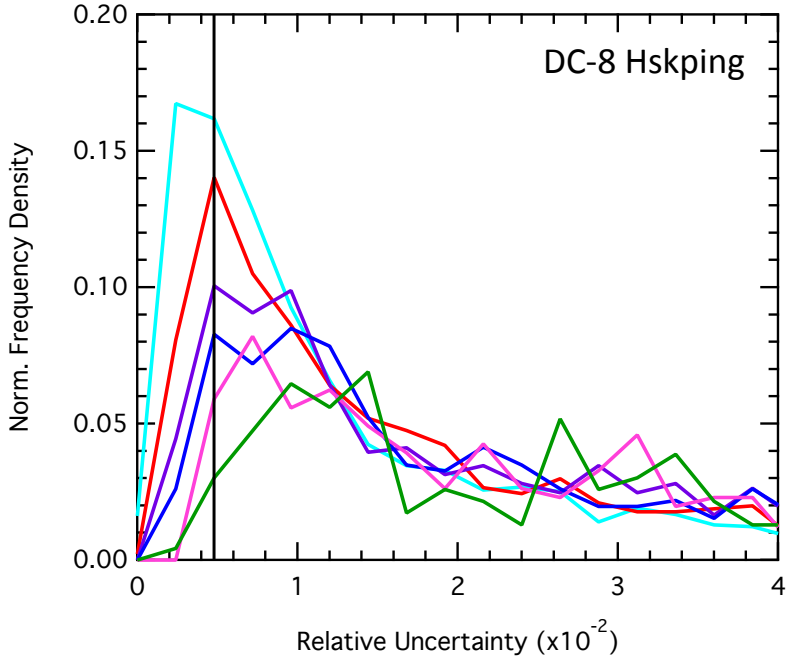

DC-8 DLH
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.0
0.5
1.0
1.5
2.0
2.5

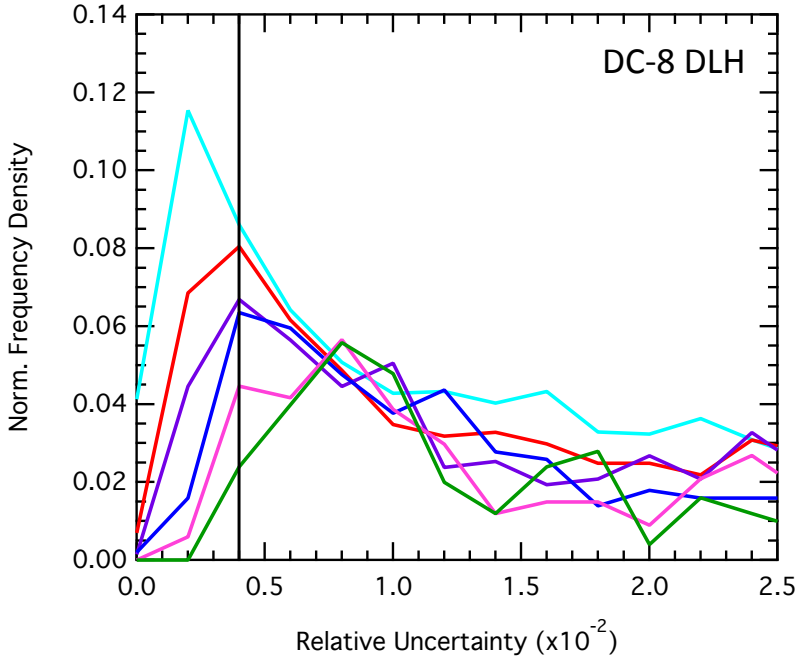

10s
20s
30s
40s
60s
80s

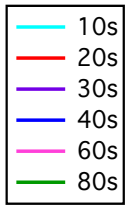

GV
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0
1
2
3
4

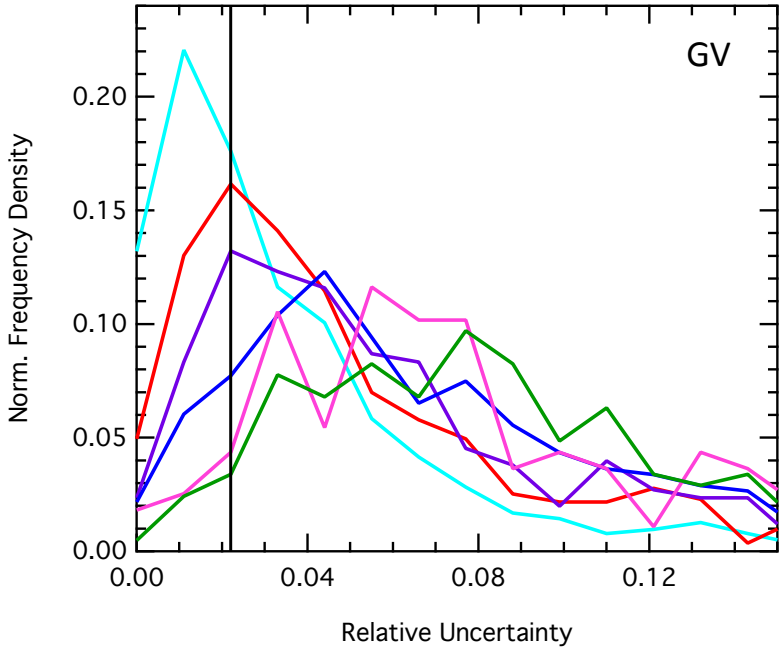
$H_2O$

06/05/12


DC-8 Hskping
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.20
0
1
2
3
4

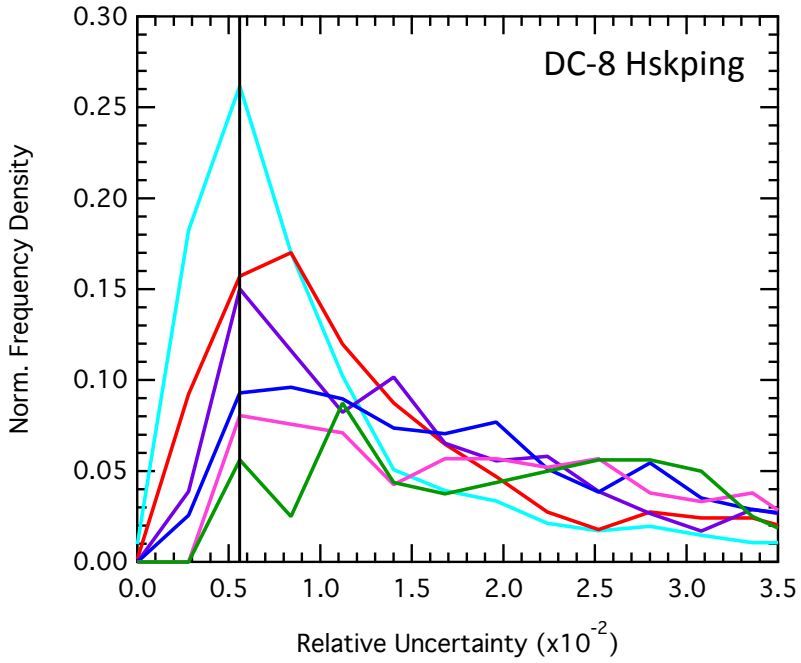

DC-8 DLH
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.0
0.5
1.0
1.5
2.0
2.5

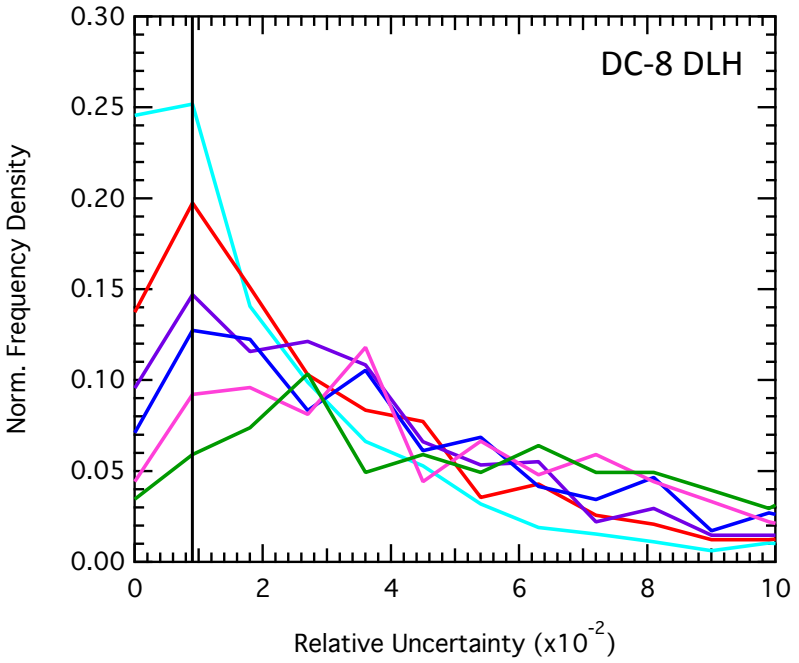

10s
20s
30s
40s
60s
80s

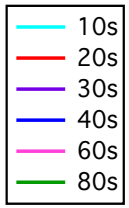

GV
Norm. Frequency Density
Relative Uncertainty
0.00
0.05
0.10
0.15
0.20
0.00
0.04
0.08
0.12

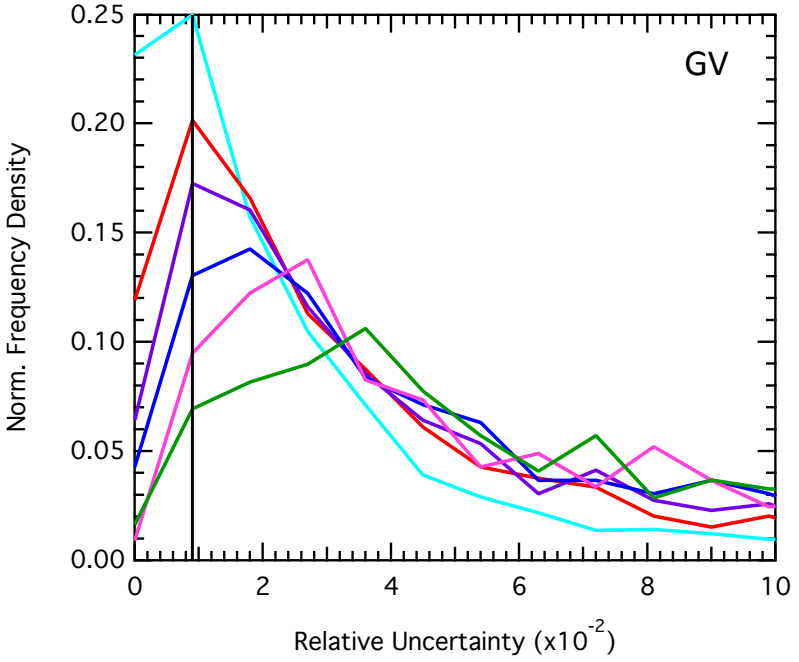
$H_2O$

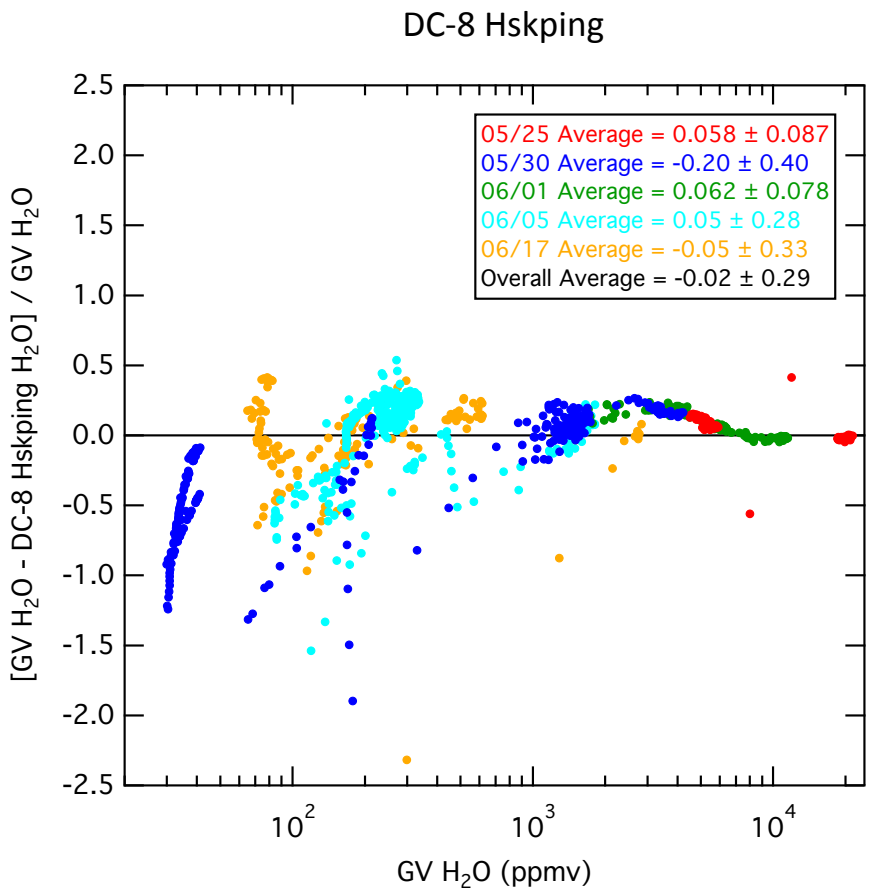
06/17/12

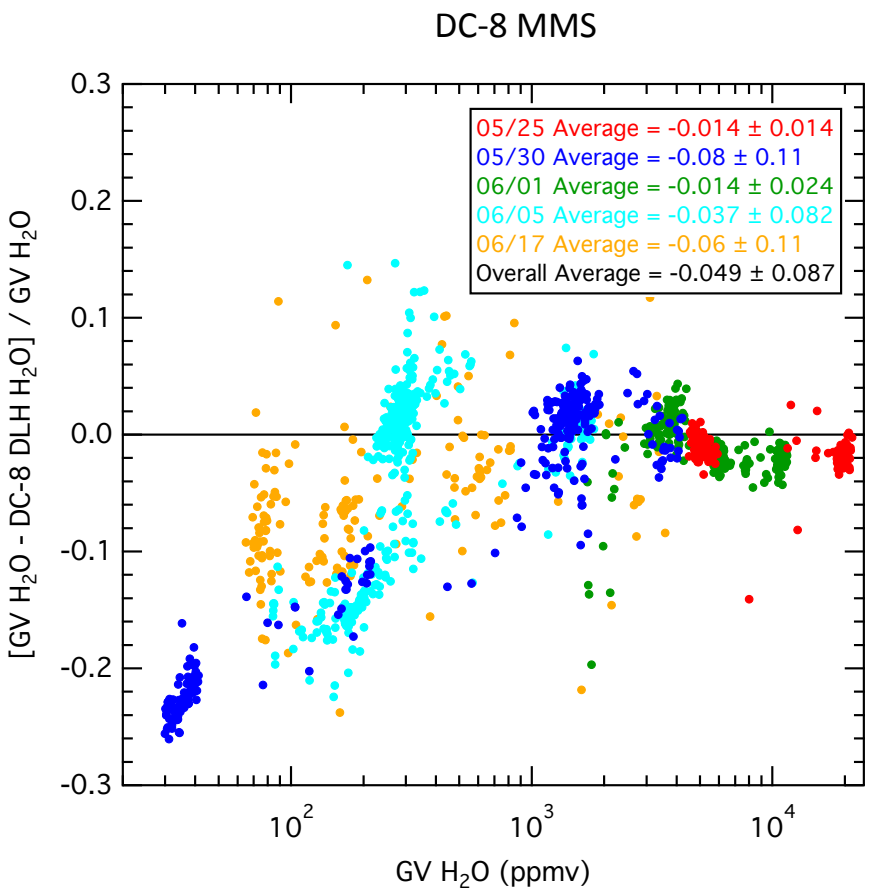

DC-8 Hskping
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5


DC-8 DLH
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0
2
4
6
8
10


10s
20s
30s
40s
60s
80s


GV
Norm. Frequency Density
Relative Uncertainty (x10$^{-2}$)
0.00
0.05
0.10
0.15
0.20
0.25
0
2
4
6
8
10


DC-8 Hskping
05/25 Average = 0.058 ± 0.087
05/30 Average = -0.20 ± 0.40
06/01 Average = 0.062 ± 0.078
06/05 Average = 0.05 ± 0.28
06/17 Average = -0.05 ± 0.33
Overall Average = -0.02 ± 0.29
[GV H2O - DC-8 Hskping H2O] / GV H2O
GV H2O (ppmv)


DC-8 MMS
05/25 Average = -0.014 ± 0.014
05/30 Average = -0.08 ± 0.11
06/01 Average = -0.014 ± 0.024
06/05 Average = -0.037 ± 0.082
06/17 Average = -0.06 ± 0.11
Overall Average = -0.049 ± 0.087
[GV H2O - DC-8 DLH H2O] / GV H2O
GV H2O (ppmv)

**IEIP Analysis Results: Relative Precision**

| Flight | Platform | IEIP Precision | Expected Variability | Observed Variability | Adjusted Precision |
|---|---|---|---|---|---|
| 05/25 | DC-8 Hskping | 0.9% | 1.05% | 5.84% | 5.01% |
| | GV | 0.54% | | | 3.01% |
| 05/30 | DC-8 Hskping | 0.45% | 0.95% | 25.13% | 11.87% |
| | GV | 0.84% | | | 22.15% |
| 06/01 | DC-8 Hskping | 0.48% | 0.74% | 5.12% | 3.33% |
| | GV | 0.56% | | | 3.89% |
| 06/05 | DC-8 Hskping | 0.48% | 2.25% | 17.39% | 3.71% |
| | GV | 2.2% | | | 16.99% |
| 06/17 | DC-8 Hskping | 0.56% | 1.06% | 20.56% | 10.86% |
| | GV | 0.9% | | | 17.45% |

- Note graphs displayed have different axes.
- IEIP analyses are subjective.
- For more information on the Internal Estimate of Instrument Precision (IEIP) procedure refer to http://www-air.larc.nasa.gov/TAbMEP.html

**IEIP Analysis Results: Relative Precision**

| Flight | Platform | IEIP Precision | Expected Variability | Observed Variability | Adjusted Precision |
|---|---|---|---|---|---|
| 05/25 | DC-8 DLH | 0.3% | 0.62% | 1.44% | 0.70% |
| | GV | 0.54% | | | 1.25% |
| 05/30 | DC-8 DLH | 1.26% | 1.51% | 11.21% | 9.33% |
| | GV | 0.84% | | | 6.22% |
| 06/01 | DC-8 DLH | 0.21% | 0.60% | 2.43% | 0.85% |
| | GV | 0.56% | | | 2.27% |
| 06/05 | DC-8 DLH | 0.4% | 2.24% | 8.25% | 1.47% |
| | GV | 2.2% | | | 8.12% |
| 06/17 | DC-8 DLH | 0.9% | 1.27% | 10.75% | 7.60% |
| | GV | 0.9% | | | 7.60% |

- Note graphs displayed have different axes.
- IEIP analyses are subjective.
- For more information on the Internal Estimate of Instrument Precision (IEIP) procedure refer to http://www-air.larc.nasa.gov/TAbMEP.html