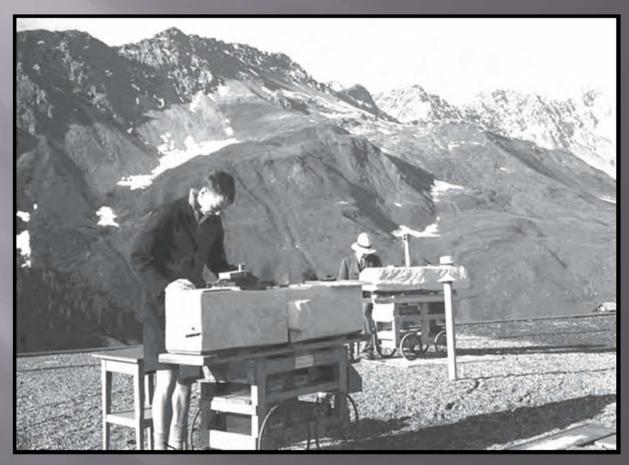
EFFECT OF OZONE CROSS SECTIONS ON UMKEHR OZONE PROFILE RETRIEVAL

Petropavlovskikh, Evans, McConville,
Disterhoft
NOAA/ESRL/GMD
CIRES

Umkehr measurements at Arosa, Switzerland, Instrument D001



1933

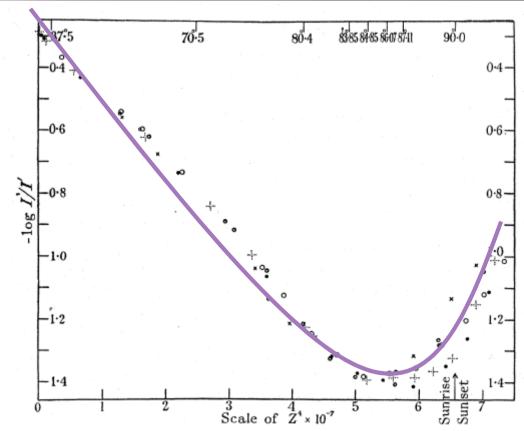
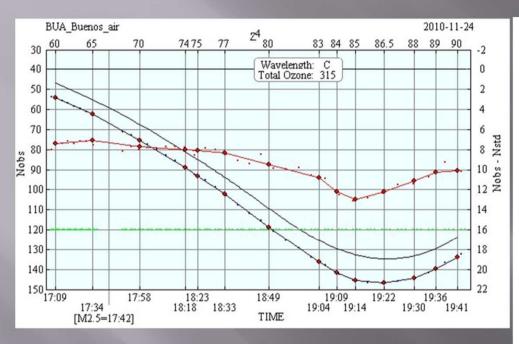
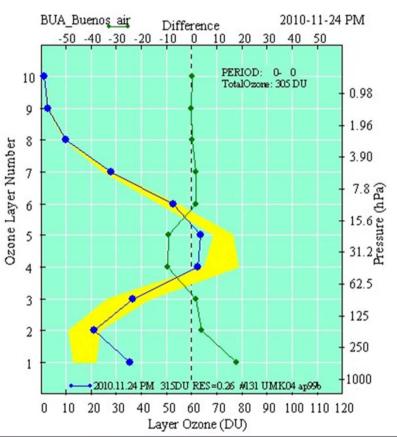


Fig. 1.—Observed values of $-\log I/I'$ for zenith blue sky on 5 days on which the total ozone content was nearly identical. \bigcirc , February 14, 1933, a.m. (x=253); \times , February 17, 1933, a.m. (x=260); \bigcirc , May 22, 1933, a.m. (x=260); +, June 3, 1933, a.m. (x=263); \bigcirc , June 3, 1933, p.m. (x=256).

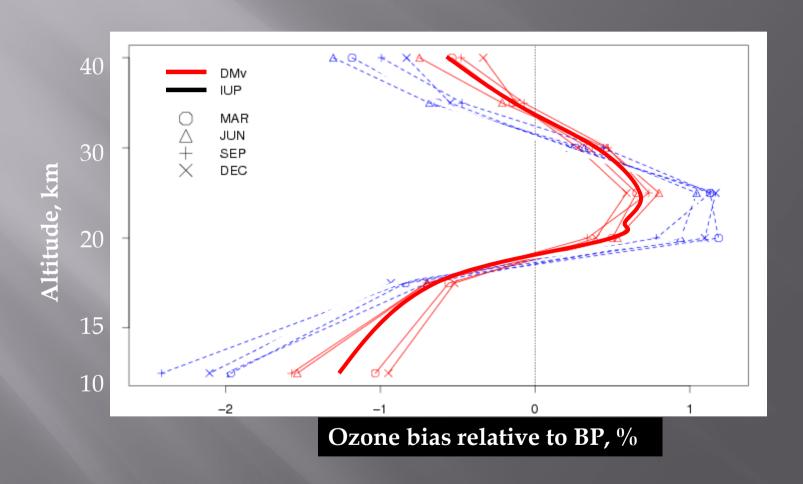
What We are doing today.



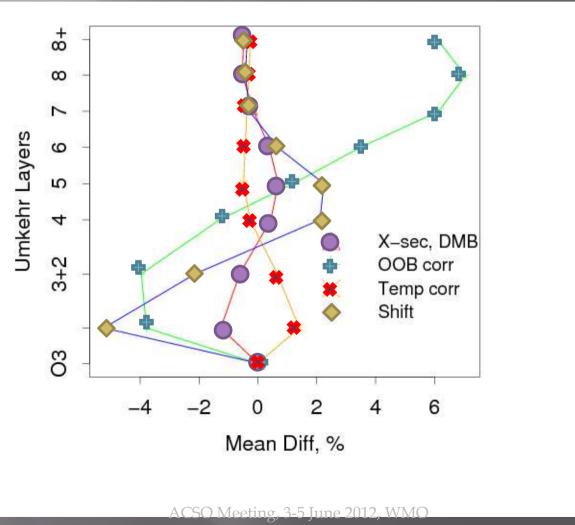
Readings plus Complex Algorithm Plus Temperature Profile climatology Plus Cross-section plus Total Ozone.



Dobson Umkehr, Boulder, 1979-2008

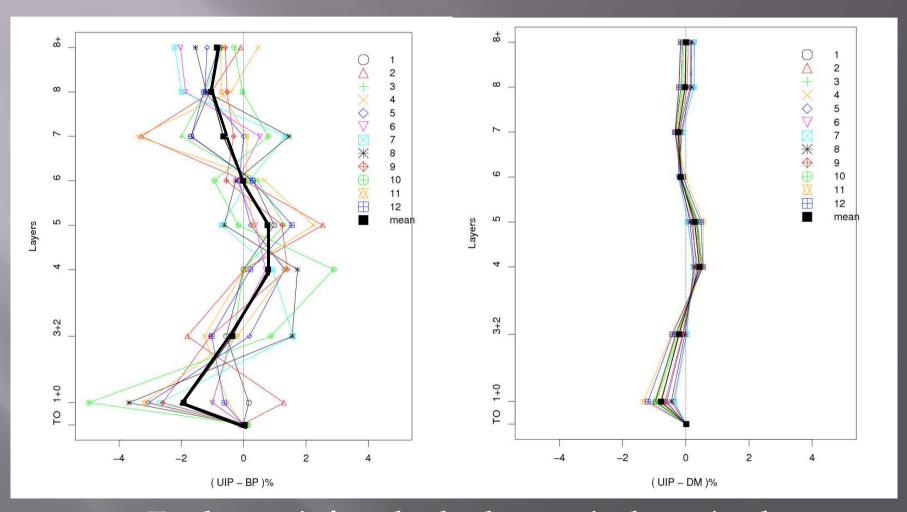


Other uncertainties in Dobson Umkehr ozone



Brewer Umkehr, Boulder, 2007-2010

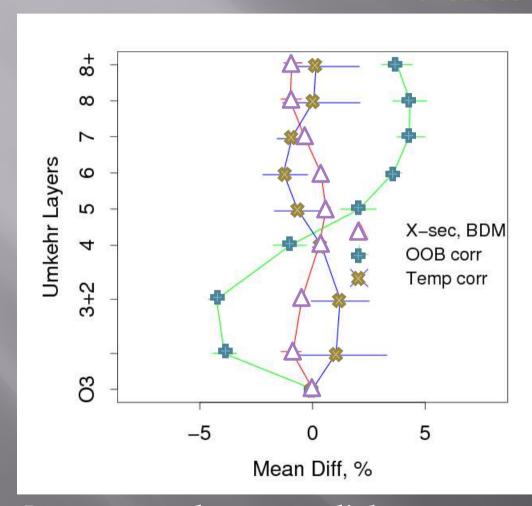
Seasonal differences for IUP vs BP Seasonal differences for IUP vs DMB



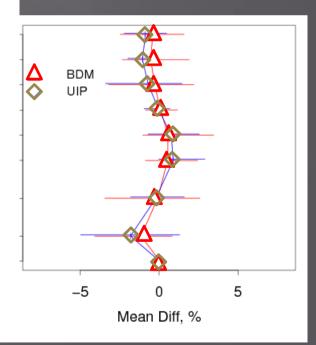
Total ozone is forced to be the same in the retrieval

ACSO Meeting, 3-5 June 2012, WMO Geneva

Other uncertainties in Brewer data



DMB and IUP vs BP – similar mean offsets
Horizontal lines
indicate seasonal
range of differences



Larger errors due to stray light

Thank You for Your Attention!