

(57-220418-B) **The Effects of the IUP Ozone Cross-section in Umkehr Retrievals and Temperature Correction**

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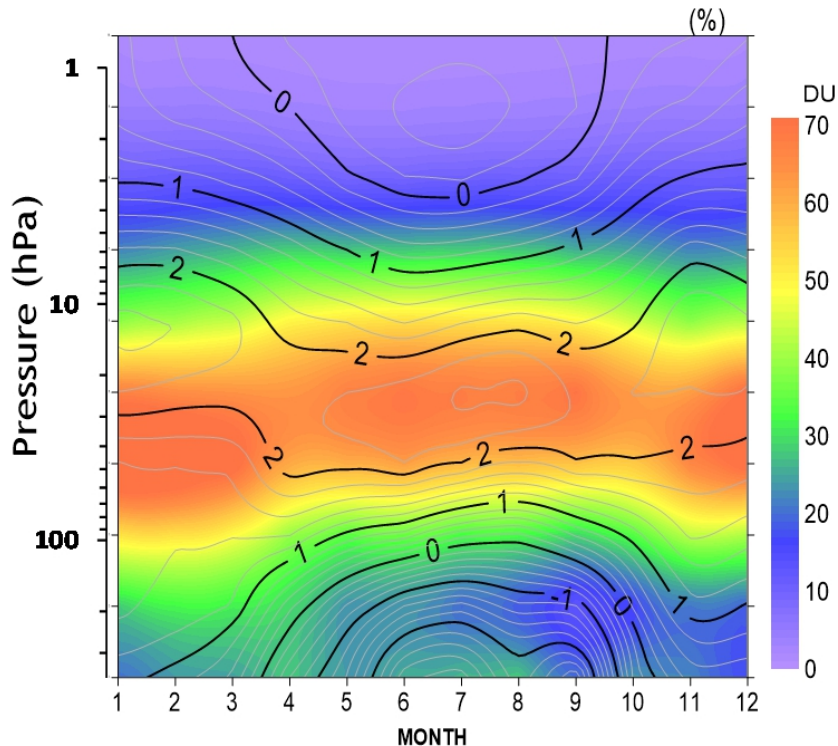
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The long-term record of Umkehr measurement of NOAA's network was optimized and provided for trend detection of stratospheric ozone recovery. The measurements from the ground-based stations are essential to validate satellite ozone measurements and ensure long-term stability. Dobson measurement includes ozone uncertainty based on operational Bass and Paur (BP, 1985).

Important impact on Umkehr recovery is considered to come from correcting TO for effective temperature dependency.

Therefore, several improved ozone absorption cross sections have been proposed.

Here we will present the effect of the ozone profile between an operational ozone cross section and IUP, and include analyses of the uncertainties. The effective temperature correction show an improvement of seasonal ozone error biases. Figure 1 shows the difference of the Umkehr retrievals between operational BP and IUP ozone cross section in 2000-2020 for Boulder, CO.



**Figure 1.** The ozone profile difference between BP for Umkehr retrievals and the IUP ozone cross sections at Boulder, CO. Color shows profile ozone and a contour line shows the difference of BP and IUP ozone.