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Measurements of Pollution In The Troposphere (MOPITT) validation through 2006

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Abstract. Comparisons of aircraft measurements of carbon monoxide (CO) to the retrievals of CO using observations from the Measurements of Pollution in The Troposphere (MOPITT) instrument onboard the Terra satellite are presented. Observations made as part of the NASA INTEX-B and NSF MIRAGE field campaigns during March–May 2006 are used to validate the MOPITT CO retrievals, along with routine samples from 2001 through 2006 from NOAA and the MOZAIC measurements from commercial aircraft. A significant positive bias, around 20% for total column CO, in MOPITT CO was found in the comparison to in situ measurements during 2006. Comparisons to the long-term records of measurements from NOAA and MOZAIC revealed an increasing bias in the V3 MOPITT CO retrievals over time. The impact of an instrumental drift is illustrated through retrieval simulations.

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