



Balloon Observation Program for Aura Validation

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We will present results from the balloon campaigns associated with the Aura validation program. This includes multiple flights from Fort Sumner, New Mexico with multi-instrument payloads, and two flights from Esrange, Sweden. The instruments involved are the Smithsonian Astrophysical Observatory FIRS-2 Far Infrared Spectrometer (FIRS-2) and the MkIV solar occultation interferometer, Submillimeter Limb Spectrometer (SLS), Balloon OH Heterodyne spectrometer (BOH), and UV photometer, all from JPL. Between these instruments, validation profiles are produced for O₃ (all instruments), OH (2 instruments), HO₂ (2 instruments), HCl (3 instruments), HNO₃ (3 instruments), ClO (1 instrument), H₂O (2 instruments), HDO (2 instruments), CFC11 (2 instruments), CFC12 (2 instruments), NO₂ (2 instruments), HOCl (3 instruments), and ClNO₃ (2 instruments). Other molecules retrieved by 1 or more of the instruments include H₂O₂, acetone, CH₃CN, HCN, HCFC22, SF₆, HF, H₂(17)O, and H₂(18)O. Some comparisons with photochemical models will also be shown demonstrate outstanding issues with stratospheric photochemistry.