



## Mixing in the Extratropical Stratosphere: Model-Measurements Comparisons Using MLM Diagnostics

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BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 50 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. We evaluate transport processes in the extratropical lower stratosphere for both models and measurements with the help of equivalent length diagnostic from the modified Lagrangian-mean (MLM) analysis. This diagnostic is used to compare measurements of long-lived tracers made by the Cryogenic Limb Array Etalon Spectrometer (CLAES) on the Upper Atmosphere Research Satellite (UARS) with simulated tracers. Simulations are produced in Chemical and Transport Models (CTMs), in which meteorological fields are taken from the Goddard Earth Observing System Data Assimilation System (GEOS DAS), the Middle Atmosphere Community Climate Model (MACCM2), and the Geophysical Fluid Dynamics Laboratory (GFDL) SKYHI model, respectively. Time series of isentropic equivalent length show that these models are able to capture major mixing and transport properties observed by CLAES, such as the formation and destruction of polar barriers, the presence of surf zones in both hemispheres. Differences between each model simulation and the observation are examined in light of model performance. Among these differences, only the simulation driven by GEOS DAS shows one case of the top-down destruction of the Antarctic polar vortex, as observed in the CLAES data....

### Reviews

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