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Features of Stratospheric Aerosol Lidar Observations
at Mauna Loa, 1974 - 1985

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Abstract

Lidar observations of the stratospheric aerosol over Mauna Loa were begun in the fall of 1974 and have continued to the present. An analysis of these observations has yielded interesting features of the stratospheric aerosol profile that change according to perturbed (from volcanic activity) and quiescent conditions. In the Mauna Loa lidar record there are two major perturbations that are contrasted, Fuego and El Chichon. The variations in relative aerosol cloud thickness, altitude of the maximum concentration and non-symmetry are compared for the quiescent and perturbed time periods. Also, a climatology of annual average aerosol profiles is described. A brief description will be given of procedures used to validate the lidar optical thickness information.