



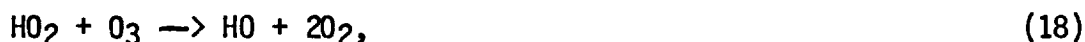
In general, reactions (15) through (17) govern the ozone concentration levels present in the sunlight irradiated well-mixed atmosphere at any instant and to a first approximation the steady state relationship, Leighton (1961).

The equation,

$$\frac{(NO_2)k_{15}}{(NO)k_{17}} = (O_3),$$

provides an accurate estimate of ozone given the ratio of $(NO_2)/(NO)$ and k_{15}/k_{17} . The photolytic rate constant k_{15} is directly related to the integrated actinic solar flux over the wavelength range 290-430 nm.

The paths for ozone destruction in the clean troposphere include the reactions sequence



Hydroxyl radical abundances predicted by the tropospheric photochemical models, 10^5 to 10^6 molecules cm^{-3} , are in qualitative agreement with recent measurements by Davis et al. (1976), Perner et al. (1976), and Campbell et al. (1979) and inferred HO levels based on measured trace gas abundances in the troposphere by Singh (1977).

Polluted Tropospheric Chemistry

Solar radiation triggers a series of reactions in the atmosphere between gaseous organic molecules and nitrogen oxides, producing a wide variety of secondary pollutants. The totality of primary and secondary pollutants involved in these photochemical reactions is known as photochemical