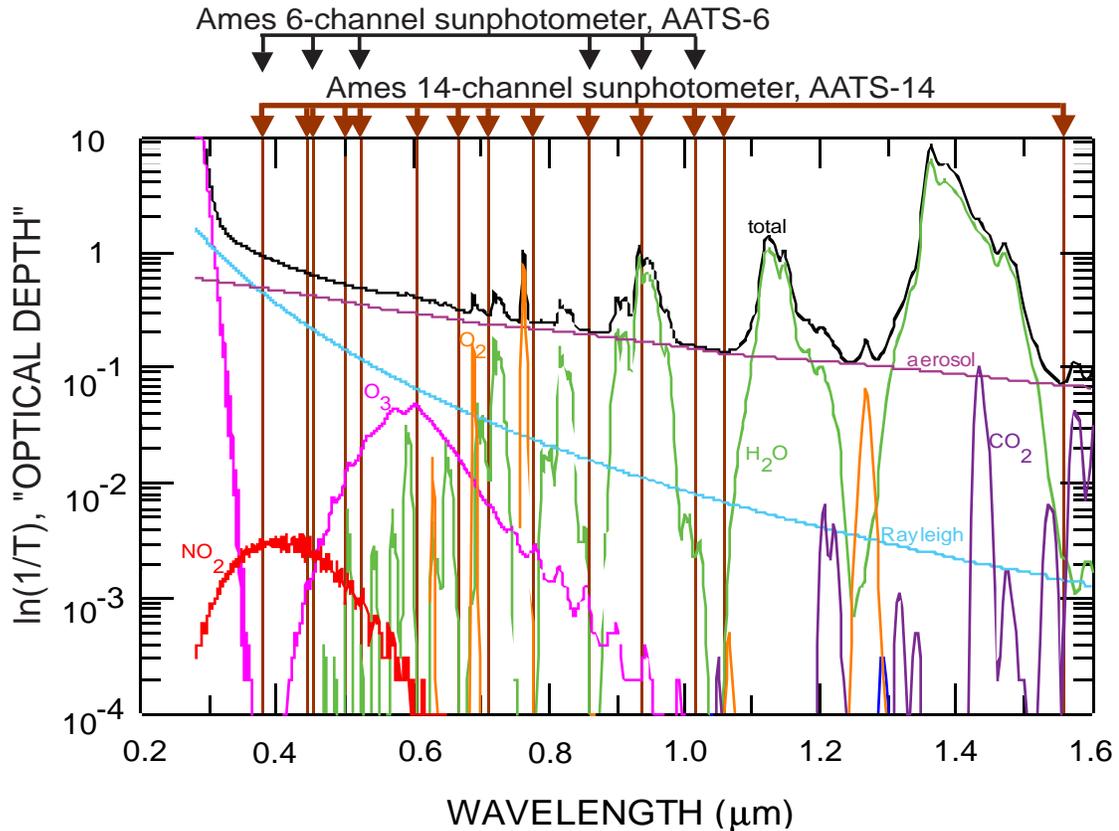


**Figure 1.** Aerosol-induced change in net shortwave flux at tropopause ( $\lambda < 4 \mu\text{m}$ ). Results were obtained by combining the AVHRR-derived aerosol midvisible optical depths of Husar et al. (1997) with aerosol intensive properties determined primarily in TARFOX. Values above each frame are averages for the  $25^{\circ}$ - $60^{\circ}$  N region, excluding African dust. (a-d) seasonal average with single scattering albedo  $\omega(550)=0.9$ . (e-f) annual average (no clouds) for  $\omega(550)=0.9$  and  $\omega(550)=1.0$ . (g-h) annual average (ISCCP clouds). (Bergstrom and Russell, 1999)



**Figure 2.** Sunphotometer channel wavelengths (vertical lines with arrows) in relation to atmospheric spectra. The spectra of  $\ln(1/T)$  were calculated for the transmission  $T$  of the direct solar beam at sea level using MODTRAN-3/Version 1.2 with a US Standard atmosphere, a spring-summer tropospheric aerosol model, and the sun at the zenith. Current center wavelengths of channel filters are 380.3, 448.3, 453.0, 499.4, 524.7, 605.4, 666.8, 711.8, 778.6, 864.4, 939.5, 1018.7, 1059.0, 1557.5 nm for AATS-14 and 380.1, 450.7, 525.3, 863.9, 941.4, 1020.7 nm for AATS-6. Filter full widths at half-maximum (FWHM) are 5 nm, except for the 448, 453, and 1558 nm channels, which have FWHM 0.94, 2.17, and 30 nm, respectively.