

FIG. 9.13. Geostrophic mean zonal wind ($m \text{ sec}^{-1}$) at 200 mb, from data of van Loon *et al.* (1971) for the Southern Hemisphere and their unpublished tabulations for the Northern Hemisphere [calculated from Crutcher and Meserve (1970)]. Areas where west wind exceeds 30 m sec^{-1} and those with east winds are hatched. Heavy dots show latitudes and mass fluxes of the Hadley cells ($10^7 \text{ ton sec}^{-1}$), according to Oort and Rasmusson (1970), for most individual months. The summer values, averages for 3 months, are taken from Fig. 9.12.

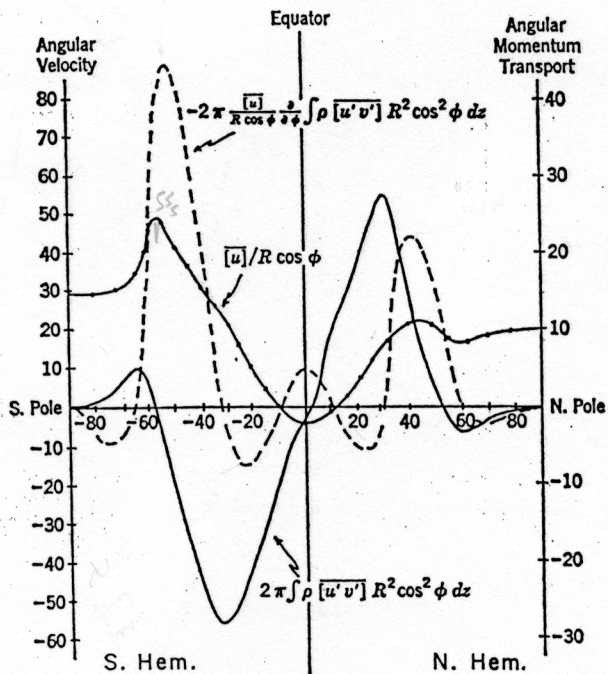


Fig. 9.8. Annual average profiles of the relative angular velocity of the atmosphere about the earth's axis (line with dots), the northward eddy transport of angular momentum (smooth line), and the contribution of the latter to maintenance of zonal kinetic energy (dashed line). The curves represent vertical mass averages. Angular velocity is in units of $10^{-7} \text{ rad sec}^{-1}$, and angular momentum transport is in HU. (After Starr, 1968.)

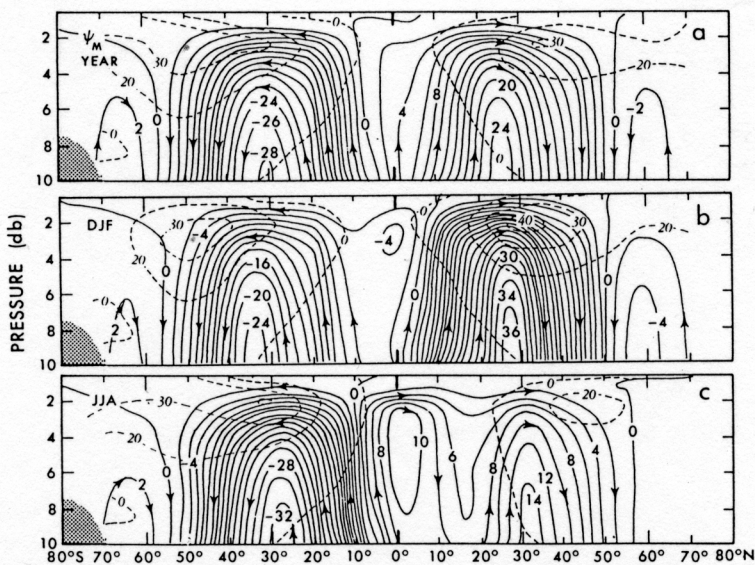


FIG. 13. Streamlines of the nondivergent component of the zonal mean transport of relative angular momentum in the atmosphere for the 10-year period (a) and the DJF (b) and JJA (c) seasons. Added are some dashed contours of $[\bar{u}]/\cos \phi$ in units of $m \text{ sec}^{-1}$, which show the countergradient nature of the eddy transports. Units are $10^{18} \text{ kg m}^2 \text{ sec}^{-2}$.