## 3.1.2 HALF-DAY AND FOUR-DAY WAVES IN THE STRATOSPHERE

Jurgen Rottger*

Arecibo Observatory
P.O. Box 995
Arecibo, Puerto Rico 00612



Further analysis of spaced-antenna measurements of 3-dimensional velocity in the stratosphere (ROTTGER, 1981) was performed over a period of 10 days and compared with meteorological observations.

A quasi-four-day wave in the lower stratosphere can be shown to originate in planetary wave/synoptic scale disturbances in the troposphere. Its phase propagates downwards and its amplitude decreases strongly with height in the lower stratosphere. The wave features are most pronounced in the meridional wind component, but they show up also in the vertical component (Figure 1).

A 12-h oscillation with downward phase progression and about 1.5 $ms^{-1}$ velocity amplitude is also detected in the meridional component above 18 km, but there is no comparable feature seen in the troposphere.

REFERENCE

Rottger, J. (1981), Wind variability in the stratosphere deduced from spaced antenna VHF radar measurements, Proc. 20 AMS Conf. Radar Meteorol., Boston/MA.

*On leave from Max-Planck-Institut fur Aeronomie, Katlenburg-Lindau, West Germany.

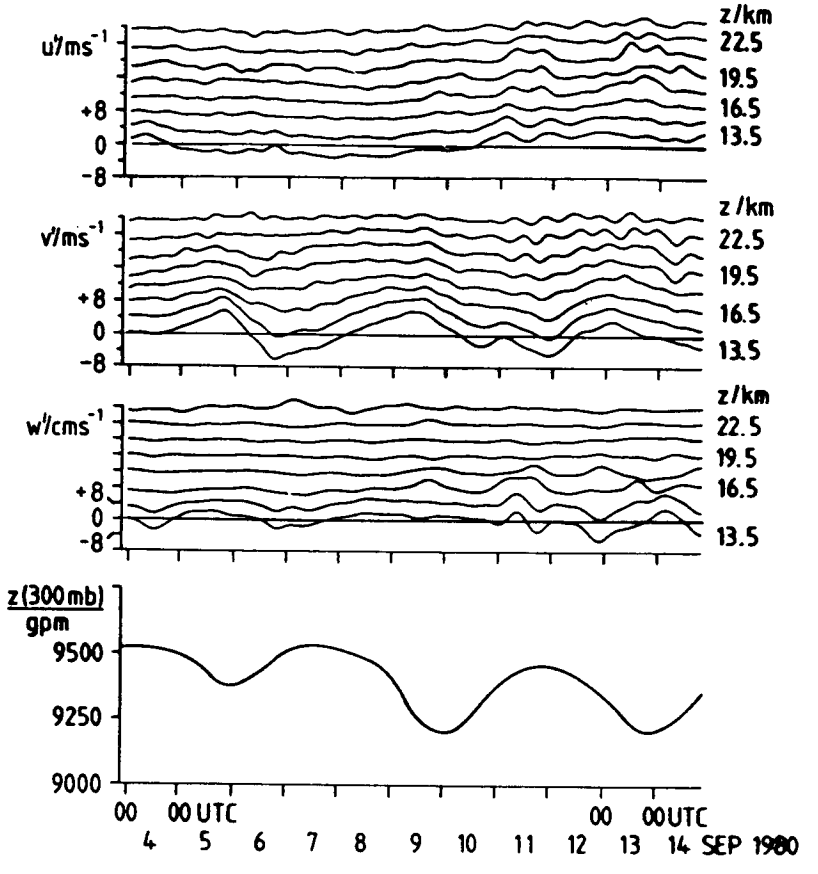


Figure 1. Time series of velocity deviations u, m, w from the mean velocities over the period 4-14 Sept. 1980, and height of the 300 mb level.