Since c, c' and μ are given and β and β' are determined by (11), α, b and b' can be calculated from (12), (13) and (14). As noted earlier, $\lambda' = \alpha$ and $\theta' = b + b'$. This solves the problem of relating Q's coordinates in the two different systems, with poles at P and P'.

Finally, it should be noted that, for a given eigenvalue k, the meridional index n is fixed, but the zonal index m may take on any integer value less than n. Thus, any linear combination of solutions of the linear equation (4), for different values of m and for different orientations of the axis of the spherical coordinate, is also a solution of (4). No such linear combination is the general solution, but is general enough to have very complicated structure.

4. Summary

In the two foregoing sections, we have constructed a large class of exact time-dependent solutions of the nondivergent barotropic vorticity equation. Those solutions consist of a steady zonal current with constant angular speed, superposed on a zonally- and meridionally-dependent velocity field that rotates bodily around the earth's axis with constant angular speed and without change in shape. The superposed propagating field has a spatial structure that is the same as in Haurwitz' earlier solutions, but relative to a spherical coordinate system whose axis is inclined to the earth's axis of rotation at an arbitrary fixed angle.

The main virtue of these new solutions is that, for almost all angles of inclination, the usual spectral representation must be complete. Thus, they are ideal comparison solutions for testing the accuracy of spectral methods of numerical integration.

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CORRIGENDUM

Winston C. Chao and Marvin A. Geller have noticed an error in their note "Utilization of Normal Mode Initial Conditions for Detecting Errors in the Dynamics Part of Primitive Equation Global Models" (*Mon. Wea. Rev.*, **110**, 304–306). In the last paragraph of Section 2, the statement "Moreover, if there is a basic flow of solid rotation with angular speed, then $\nu = 2\tilde{\sigma}(\Omega + \omega) + \omega$" is not correct. This statement is correct only for a Rossby-Haurwitz wave in a nondivergent flow on a sphere.

With a solid rotation basic state, both the eigenfrequency $\tilde{\sigma}$ and the meridional structure of the normal modes must be recalculated (see Kasahara, *J. Atmos. Sci.*, **37**, 917–929; corrigendum, **38**, 2284–2285). A term $\omega a \cos\phi$, where a is the radius of the earth and ϕ the latitude, is added to the right-hand side of the u equation; and another term $\frac{1}{2}\gamma(\cos^2\phi - \frac{2}{3})$, where $\gamma = a^2\rho_0(2\Omega + \omega)\omega$, is included as part of p_0. These changes apply to both the isentropic and the isothermal normal mode initial conditions.