1085-86-157 **Cecile Penland*** (cecile.penland@noaa.gov), R/PSD3, NOAA/ESRL/PSD3, 325 Broadway, Boulder, CO 80305. *On multiplicative red noise in the fluctuating vorticity equation.*

We consider a multivariate linear system with multiplicative parameters that are themselves Ornstein-Uhlenbeck processes. In such a case, the moment equations are not closed, and approximate analytical expressions for comparison with numerical calculations are difficult to obtain. In fact, direct numerical calculations of these moments are often themselves difficult to obtain. We introduce a closure approximation based on a "slow noise limit" that allows accurate approximation to the vector mean of such systems. This approximation is used to investigate the role of multiplicative red noise on Rossby-Haurwitz waves on a super-rotating flow. (Received September 07, 2012)