# LATITUDINAL AND FREQUENCY CHARACTERISTICS OF THE WESTWARD PROPAGATION OF LARGE-SCALE OCEANIC VARIABILITY

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In the open ocean away from the equator, westward propagation is a ubiquitous characteristic of oceanic variability. A large number of studies have documented the westward propagation of large-scale thermal variability of the ocean and interpreted the findings in terms of baroclinic Rossby waves. Eddy-like features such as Gulf Stream rings and Agulhas eddies, governed by non-linear dynamics, also exhibit westward propagation when they are away from the boundary currents. The objectives of the present study are to investigate the latitudinal dependence of the frequency distribution of westward-propagating variability. Two-dimensional Fourier analysis in frequency and zonal wavenumber is applied to time-longitude records of sea surface height data obtained from the TOPEX/Poseidon Mission. The results are analyzed in terms of the frequency and latitudinal characteristics of Rossby waves. It is found that the majority of the westward propagation has frequencies lower than the latitude-dependent maximum frequency of baroclinic Rossby waves. Significant exceptions are found near the 40-degree latitude in the North and South Atlantic and the southwestern Indian Ocean, where high-frequency westward propagation is prominent with frequencies generally higher than those of barotropic Rossby waves.