



Observations of trapped Rossby waves in the Indian Ocean

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Analyses of satellite observations of the westward propagation speed of low frequency Sea Surface Height Anomalies in the ocean often show large differences compared to the phase speed of Extra-Tropical oscillatory Rossby wave theory. Using 12 years of precisely calibrated and highly accurate altimeter observations we show that in the Indian Ocean south of Australia, the low frequency variations of Sea Surface Height Anomalies are dominated by trapped planetary waves. The trapped wave theory explains both the observed meridional structure and westward phase speed of the anomalies. This is the first evidence for the relevance of the new theory of global scale trapped waves to observations in the ocean.