Surface velocity variation of the Kuroshio-Kuroshio Extension system -its relations with local monsoon winds-

*YUXIANG QIAO[1], Hirohiko Nakamura[2], Kako Shinichiro[3], Ayako Nishina[2]

1. The United Graduate School of Agricultural Sciences, Kagoshima University, 2. Faculty of Fisheries, Kagoshima University, 3. Graduate School of Science and Engineering, Kagoshima University

Our previous study focused on the decadal surface velocity variation over the entire Kuroshio-Kuroshio Extension (KE) current system, and found that such a variation is out of phase between the Kuroshio and KE. In another word, Kuroshio is strengthened (weakened) while KE is weakened (strengthened) for a decadal time scale. From our results, the above-mentioned phenomenon is caused by the climate oscillation such as Pacific Decadal Oscillation (PDO) through a remote process. The Sea Surface Height (SSH) anomalies excited by the PDO over the northeastern North Pacific and the area east of Philippines propagate to the Kuroshio-KE area, and then generate an opposite intensity variation between the Kuroshio and KE because of different propagation times. Following the above results, our present study focuses on the interannual surface velocity variation of the Kuroshio-KE system, and its relation with local monsoon. In order to pay attention to interannual modulation of the seasonal change, we investigate the yearly time series of the monthly Kuroshio-KE system velocity. Our preliminary result suggests that the interannual winter velocity variation of the Kuroshio has a significant correlation with the local winter monsoon. However, the interannual time-scale relation between the summer Kuroshio velocity variation and local summer monsoon is unclear.

Keywords: Kuroshio-Kuroshio Extension system, Interannual velocity variation, Monsoon

