



Water Import of East China Sea through Taiwan Strait as Measured by ADCP on a Ferry and by HF Radars

Cho-Teng Liu (1), Takeshi Matsuno (2), Hsien-Wen Chen (3), Wen Chang Yang (4), Kaoru Ichikawa (5), Wei-Teng Tsai (6), and Chang-Wei Lee (7)

(1) National Taiwan University (liuchoteng@gmail.com), (2) Kyushu University, Japan (matsuno@riam.kyushu-u.ac.jp), (3) Central Police University of Taiwan (hsienwenchen@gmail.com), (4) Taiwan Ocean Research Institute, NARL (ywc@tori.narl.org.tw), (5) Kyushu University, Japan (ichikawa@riam.kyushu-u.ac.jp), (6) National Taiwan University (rickpigrick@gmail.com), (7) Taiwan Ocean Research Institute, NARL (changwei.lee@gmail.com)

East China Sea is surrounded by countries that contains one fourth of the world population. To understand the marine environment and marine ecosystem, one has to know the balance of water transport in and out of East China Sea. Half of the influx to East China Sea is through Taiwan Strait. Unfortunately, the heavy fishing activity resulted the longest current measurement with bottom-mount ADCP across Taiwan Strait is only 2.5 months long. The current in Taiwan Strait were survey with an ADCP installed at the bottom of a ferry boat which provides about 1000 transects in 2009-2011 across Taiwan Strait. The measurement of volume transport Q from Taiwan Strait to East China Sea shows clearly that the variation of Q is mostly by the local wind, $Q (Sv) = 0.279 W_{a10} + 2.12$, where W_{a10} is the along strait wind component at 10 m height. This is verified with HF radar measurement from Taiwan.