

# **A comparison between field and laboratory pH measurements for seawater on the East China Sea shelf**

Wen-Chen Chou<sup>\*</sup>, Gwo-Ching Gong, Chin-Yo Yang, and Kai-Yuan Chuang  
Institute of Marine Environment and Ecology, National Taiwan Ocean University

## **Abstract**

To evaluate the effect of sample storage on pH analysis, a comparison experiment between field and laboratory pH measurements was conducted on a total of 88 seawater samples collected on the East China Sea shelf during 16-29 July 2014. The results show that although pH directly measured onboard was statistically higher than the pH later measured onshore with an average residual of  $0.0052 \pm 0.0057$ , after correcting for the perturbation caused by the addition of the  $\text{HgCl}_2$  solution, the observed difference was within the uncertainty in pH measurement. Therefore, our result suggests that, similar to total alkalinity and dissolved inorganic carbon determinations, seawater samples can be stored for pH analysis with a precision that is comparable to the uncertainty of onboard measurement for a period of at least 20 days.