

Original paper

Effects of Current Meter Tilting on Current Observation

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Abstract

We measured tidal currents by using an electromagnetic current meter mooring in the Ariake Bay to clarify how heavy the sinker needs to be and how current meters should be moored for accurate current measuring. From the results, it is believed that there possibly occur 1 m/s over speeds of tidal currents *in situ*, and that the tilt of the current meter caused a decline of the observed speed. In addition, in cases where one observes tidal current by ACM-8M, a 10 kg sinker seemed to be insufficient to keep the current meter tilt to less than 20°, which is the limit of the clinometers installed, and furthermore mooring current meters in series encourages tilting. We recommend that the mooring of current meters in series should be avoid, the sinker should be connected close to the current meter, and that sinkers much heavier than 10 kg should be used.

Keywords : electromagnetic current meter, vector averaging, Ariake Bay, mooring