

A practical method of current measurement with three-beam type shipmounted ADCP

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Abstract

With regard to the shipmounted ADCP (Acoustic Doppler Current Profiler), which has been widely used for current measurement since 1980's, a type using four acoustic beams transmitted downward from a vessel (four-beam type) is major internationally. In Japan, however, in addition to the four-beam type, a type using three acoustic beams (three-beam type) is also popular, but is not well documented in terms of technical issues in comparison with the four-beam type. Although the instrumental principle of the two types does not have big differences, data processing formulations are a little different. The present study provides a general description of current measurement with three-beam type ADCP, including data processing formulations, error sources, and practical methods of error correction.