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NATIONAL METROLOGY VERIFICATION REGULATION OF THE PEOPLE'S REPUBLIC OF CHINA

JJG 1166-2019

Single Point Acoustic Doppler Current Measuring Instrument

声学多普勒海流单点测量仪检定规程

(English Translation)

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Introduction

The preparation of this regulation is based on JJF1001-2011 "General Measurement Terms and Definitions", JJG 1002-2010 "Country the "Measuring Verification Regulations Writing Rules" is formulated on the basis and basis.

This regulation is issued for the first time.

Verification Regulation of Acoustic Doppler Current Current Single Point Measuring Instrument

1 Scope

This regulation is applicable to acoustics with a flow direction measurement range of (0~360)° and a flow rate measurement range of (5~300) cm/s the first verification, subsequent verification and in-use inspection of Doppler current single-point measuring instrument.

2 Reference documents this regulation refers to the following documents.

JJG 1001-2011 General Measurement Terms and Definitions GB/T 15920-2010 Oceanographic terminology physical oceanography for dated references, only the dated versions are applicable to this Regulation; for those without dates the latest version (including all amendments) is applicable to this regulation.

3 Terms and units of measurement

3.1 Terminology

The terms and definitions defined in JJG 1001-2001 and GB/T 15920-2010 are applicable to this regulation.

3.2 Unit of measurement

3.2.1 Flow rate unit. centimeters per second, symbol. cm/s.

3.2.2 Flow direction unit. degree, symbol. °.

4 Overview

Acoustic Doppler ocean current single-point measuring instrument (hereinafter referred to as "ocean current meter") is based on the principle of acoustic Doppler frequency shift, the transducer emits short acoustic pulses in the direction of the narrow beam and receives the scattered particles returned by the beam as it passes through the body of water Acoustic signals, use these signals to calculate the velocity and direction. The current meter can measure the current in the anchor/fixed state Measure the flow velocity and direction of the water body in the area of 0.4m~1.0m from the transducer at the installation depth. The working principle of the current meter is shown in Figure 1 as shown.

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Note: Scattered particulate matter usually refers to plankton, air bubbles, suspended sediment or organic matter, and particulate matter produced by human activities.

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