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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JJG 1182-2021

**Verification Regulation of Vector Hydrophones in the Frequency
Range 20 Hz to 1 kHz
(English Translation)**

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Introduction

This regulation is prepared according to the rules given in JJF1002-2010 "Rules for Compilation of National Metrology Verification Regulations", and According to the requirements of JJF1059.1-2012 "Assessment and Expression of Measurement Uncertainty", the measurement uncertainty is evaluated and expressed:

This regulation uses the standing wave tube absolute calibration method, which is consistent with JJF1340-2012 "20Hz~2000Hz vector it is different from Hydrophone Calibration Specification, which uses the standing wave tube comparison method:

This regulation is published for the first time:

Verification Regulations for 20Hz~1kHz Vector Hydrophone

1 Scope

This regulation applies to the initial verification and follow-up verification of vector hydrophones used in the frequency range of 20Hz~1kHz and check in use:

For the type of vector hydrophone that includes a sound pressure channel, this regulation is only applicable to the verification of its vector channel:

2 References

This procedure references the following documents:

JJG 233-2008 piezoelectric accelerometer JJG 449-2014 Octave and Fractional Octave Filters JJF1001 General Metrology Terms and Definitions JJF1034-2020 Acoustic Metrology Terms and Definitions JJF1340-2012 20Hz~2000Hz vector hydrophone calibration specification GB/T 3102.7 Acoustic quantities and units Commonly used frequencies in GB/T 3240-1982 acoustic measurement GB/T 3947 Acoustic Terminology for dated references, only the dated version applies to this regulation; for undated references document, its latest version (including all amendments) applies to this regulation:

3 Terminology and units of measurement JJF1001, JJF1034, GB/T 3947 and JJF1340-2012 and the following terms and definitions apply in this regulation:

This regulation adopts the quantities and units specified in GB/T 3102.7:

The ratio of the open circuit voltage at the output of a vector hydrophone to the actual particle acceleration acting on its receiving surface:

Unit: $V/(m \cdot s^{-2})$:

The base 10 logarithm of the ratio of the magnitude of the particle acceleration sensitivity to the reference value multiplied by 20:

Unit: dB:

Note: The reference value is $1V/(m \cdot s^{-2})$:

The ratio of the open circuit voltage at the output of a vector hydrophone to the actual particle velocity acting on its receiving surface: