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PEOPLE'S REPUBLIC OF CHINA

JJF 1904-2021

Calibration Specification for Differential Accelerometer Amplifiers

差分式加速度传感器放大器校准规范

(English Translation)

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Introduction

This specification is based on JJF 1071 "Rules for the Compilation of National Metrology and Calibration Specifications", JJF 1001 "General Metrology Terms and Definitions" "Evaluation and Expression of Measurement Uncertainty" and JJF 1059.1 "Measurement Uncertainty Evaluation and Expression" are the basic series of specifications.

The formulation of this specification refers to JJG233-2008 "Piezoelectric Accelerometer", JJG338-2013 "Charge Amplification Device", JJF 1156 "Terms and Definitions of Vibration and Shock Speed Measurement" and JJF 1269-2010 "Piezoelectric Integration Technical regulations such as "In-Circuit Sensor (IEPE) Amplifier Calibration Specification".

This specification is released for the first time.

Calibration Specification for Differential Acceleration Sensor Amplifier

1 Scope

This specification applies to the calibration of DC-excited differential acceleration sensor amplifiers (hereinafter referred to as amplifiers).

2 Reference documents JJG338 charge amplifier JJF 1156 Vibration impact speed measurement terms and definitions JJF 1269 Piezoelectric integrated circuit sensor (IEPE) amplifier calibration specification for dated reference documents, only the dated version

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applies to this specification; for all undated references the latest version (including all amendments) is applicable to this specification.

3 Term

3.1 Transmission coefficient the ratio of the output voltage of the amplifier to the input voltage.

4 overview

Amplifiers are widely used in signal adjustment of differential acceleration sensors such as piezoresistive and strain gauges. Amplifier pair plus the output signal of the speed sensor is amplified and adjusted. It is generally composed of a constant voltage DC excitation power supply, a servo feedback unit, it is composed of differential conversion stage, low-pass filter, amplifying unit and so on. Figure 1 is a typical amplifier for sensor signal conditioning block diagram.

Figure 1 Block diagram of amplifier conditioning sensor signal

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