

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

JJF 1130-2005

**Guide to the Estimation of Uncertainty in Calibration of
Geometrical Measuring Equipment
(English Translation)**

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Geometric measurement equipment calibration Uncertainty assessment guide this specification is based on ISO 14253-2:1999 Geometrical Product Specifications (GPS) - Workpieces and measuring equipment Measurement Testing - Part 2. Guidance for Uncertainty Evaluation of GPS Measurements in Measurement Equipment Calibration and Product Inspection (Geometrical Product Specifications (GPS)---Inspection by measurement of Workpieces and measuring equipment---Part 2. Guide to the estimation of uncertainty in GPS measurement, in calibration of measuring equipment and in product verification) Drafting, the basic content is the same, but only for calibration activities, so the words related to product inspection are abridged.

In order to maintain the unity of text and the convenience of international exchange, in this specification, we use GUM as 1993 7 the Guide to Measurement Uncertainty (GUM) or JJF 1059-1999 jointly issued by international organizations Abbreviation for the recommended uncertainty assessment method.

1 Scope

As a basis for implementing the JJF 1059-1999 "Measurement Uncertainty Evaluation and Representation" basic concept in calibration South, this specification applies to the characterization (calibration) activities of geometric measuring equipment. The purpose of this specification is to give incomplete all the information of the qualitative report, and the international measurement results and their uncertainty (the relationship between the customer and the supplier) the comparison provides the basis.

This specification helps to understand the maximum allowable error (MPE) of the metrology characteristics of measuring equipment.

This specification uses the Uncertainty Management Program (PUMA), which is based on JJF 1059-1999.

A practical iterative procedure for measuring uncertainty, and no changes have been made to the basic concepts of JJF 1059-1999.

This specification is generally used for uncertainty assessment and reporting of uncertainty

in the following situations.

---A single measurement result;

--- comparison of two or more measurements;

--- Measurement results obtained by one (or more) measuring equipment and specified technical indicators (ie measuring instruments or A comparison of the maximum allowable error (MPE, etc.) of the metrological characteristics of the standard is measured to determine whether the requirements are met.

The iterative method of this specification is basically based on the evaluation of the upper bound of the uncertainty, that is, the various stages of uncertainty evaluation.

The segment overestimates its uncertainty, and the degree of overestimation is controlled by the number of iterations. In order to avoid making wrong judgments from the measurement results Broken, deliberate overestimation of uncertainty. The degree of overestimation is determined by the economic evaluation in specific situations.

In calibration activities, the iterative method is the tool that gets the most benefit at the lowest cost. Iterative or iterative procedure Economically self-regulating. In order to reduce the calibration cost, the iterative method is to change/reduce the measurement uncertainty.

Tool of. In the measurement uncertainty assessment and allocation, the iterative method makes the coordination between risk, effect and cost become may.

2 Citations

The terms in the following documents become the terms of this specification by reference to this specification. Quotations with dated , all subsequent amendments (not including errata content) or revisions do not apply to this specification, however, drums