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

GB/T 4086.4-2025

Replacing GB/T 4086.4-1983

**Data analysis and decision - Tables for statistical distributions -
Part 4: F-distribution**

数据分析与决策 统计分布数值表 第4部分：F分布

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 4 of GB/T 4086 "Statistical Distribution Numerical Tables for Data Analysis and Decision Making". GB/T 4086 has been published. The following section.

1.Normal Distribution;

---Part 2.chi² distribution;

---Part 3.t-distribution;

---Part 4: F-distribution;

5.Binomial Distribution;

6.Poisson Distribution;

7.Non-central t-distribution. This document replaces GB/T 4086.4-1983 "Statistical Distribution Numerical Tables F Distribution". Compared with GB/T 4086.4-1983, except for the structure... Aside from adjustments and editorial changes, the main technical changes are as follows:

a) Added table footnotes for table spacing and precision (see Chapter 1);

b) In the F distribution quantile table, " $F_p(\nu_1, \nu_2) = \int_0^{\nu_1/\nu_2} \frac{\nu_1 \nu_2}{2} B(\frac{\nu_1}{2}, \frac{\nu_2}{2}) (1-x)^{\nu_1/2-1} x^{\nu_2/2-1} dx = p$ " changed to $F_p(\nu_1, \nu_2)$ satisfies $\int_0^{\nu_1/\nu_2} \frac{\nu_1 \nu_2}{2} B(\frac{\nu_1}{2}, \frac{\nu_2}{2}) (1-x)^{\nu_1/2-1} x^{\nu_2/2-1} dx = p$ (see Chapter 5, 1983 edition) Chapter 1). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for

identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Statistical Methods Application (SAC/TC21). This document was drafted by: China National Institute of Standardization, North China University of Technology, Anhui Agricultural University, and the Institute of Mathematics and Systems Science, Chinese Academy of Sciences. Research Institute, Hebei Provincial Institute of Product Quality Supervision and Inspection. The main drafters of this document are: Zhao Jing, Zhang Xuan, Cheng Jing, Xu Liwen, Zhang Fan, Wu Gang, Wang Haitao, Cao Xinyu, Yang Ziqiang, Wei Gongyi, and Li Kehong. This document was first published in 1983, and this is its first revision.

Currently, with the widespread use of computers, using computer programs to obtain the required statistical distribution values is a good method. However, if a computer is not readily available, or if it is desirable to obtain the required statistical distribution values easily, then statistical distribution tables are still necessary. However, it is an indispensable tool. In practice, basic statistical distributions, such as the normal distribution, χ^2 distribution, t distribution, F distribution, binomial distribution, and Poisson's distribution, are essential. Loose distribution and noncentral t-distribution are the distributions that people are most interested in. GB/T 4086 "Statistical Distribution Numerical Tables for Data Analysis and Decision Making" is proposed to consist of 7 parts.

1.Normal Distribution. The aim is to provide the probability density function, distribution function, and quantiles of the standard normal distribution. Numerical value.

2.Chi-square distribution. The purpose is to provide the distribution function of the chi-square distribution and the numerical values of its quantiles.

1 Scope

GB/T 4086.4-2025 is the Chinese national standard covering the F tables - the quantiles across two degrees of freedom at the usual significance levels, for the analysis of variance and every comparison of two variances. At 55,000 words, almost all of it tabulated values. Part 4 of the series. It replaces GB/T 4086.4-1983 and is already in force. Issued on 5 October 2025, it has been in force since 5 October 2025, replacing GB/T 4086.4-1983.

This document provides a table of F-distribution quantiles, whose names, table intervals, and precision are shown in Table 1. Table

1.Names, table distances, and precision of the F-distribution quantile tables. Name, Distance a, Precision b F-distribution quantile table

$p=0.5(0.05)0.95,0.975,0.98,0.99,0.995,0.9975,0.999,0.9995$ 4~5 decimal places The distance in the table, such as $p = 0.5 (0.05), 0.95, 0.975, 0.98, 0.99, 0.995, 0.9975, 0.999, 0.9995$, indicates that the value range of p is $0.5 \sim 0.9995$, where the value interval within the range of

0.5 to

0.95 is 0.05, and the values within the range of >

0.95 to 0.9995 are 0.975, 0.98, 0.99, 0.995, and 0.9995 respectively. 0.9975, 0.999, 0.9995.

b. Precision refers to the number of decimal places retained in a numerical value. This document applies to situations where F-distribution quantile values are used in data analysis and decision-making.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 3358.1 Statistical vocabulary and symbols Part

3 Terms and Definitions

The terms and definitions defined in GB/T 3358.1 apply to this document.

4 Overview

The quantiles given in this document correspond to the lower-side probabilities. Although the table provides 4 to 5 decimal places, the number of decimal places required in actual use depends on the specific problem. If the numerical tables listed in this document do not meet the application requirements, refer to Appendix A and Appendix B for calculations, or use interpolation methods. Rough calculation.