

ICS 17.040.20

CCS J04



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

GB/T 26958.71-2022

**Geometrical product specifications (GPS) - Filtration - Part 71:
Robust areal filters - Gaussian regression filters**

产品几何技术规范（GPS）滤波 第71部分：稳健区域滤波器 高斯回归滤波器

Issued on: December 30, 2022

Implemented on: April 1, 2023

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document was issued on 30 December 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 April 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

It is classified under ICS 17.040.20, Chinese classification J04.

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is part 71 of GB/T 26958 "Geometric Specifications for Products (GPS) Filtering". GB/T 26958 has been released

The following sections.

- Part 1. Overview and basic concepts;
- Part 20. Basic concepts of linear contour filters;
- Part 21. Linear contour filter Gaussian filter;
- Part 22. Linear contour filter spline filter;
- Part 28. Contour filter end effect;
- Part 29. Linear contour filter spline wavelet;
- Part 30. Basic concepts of robust contour filters;

- Part 31. Robust contour filter Gaussian regression filter;
- Part 32. Robust contour filter spline filter;
- Part 40. Basic concepts of morphological contour filters;
- Part 41. Morphological contour filter disc and horizontal line segment filter;
- Part 49. Morphological contour filter scale space technology;
- Part 60. Basic concepts of linear region filters;
- Part 61. Linear region filter Gaussian filter;
- Part 71. Robust region filter Gaussian regression filter;
- Part 85. Morphological region filter segmentation.

This document is equivalent to ISO 16610-71:2014 "Product Geometric Specifications (GPS) Filtering Part 71. Robust Area Filtering

Filter. Gaussian Regression Filter".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

This document is proposed and managed by the National Product Geometric Technical Specification Standardization Technical Committee (SAC/TC240).

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Introduction

In the process of analyzing the feature information of product surface topography and roughness, the filter model, filter parameters, filter transmission characteristics, table

There are no consistent standards and specifications for the separation, extraction and reconstruction of long-wave components and short-wave components of surface profiles, and the treatment of end effects.

In line with the concept requirements of the GPS consistent specification. Focus on the processing technology and filtering of surface roughness feature information with Gaussian statistical distribution

Method to build a new generation of GPS surface roughness filtering specification system.

GB/T 26958 "Product Geometric Specifications (GPS) Filtering" is based on the new generation of GPS product geometric specification system, providing industrial production with

A complete set of filtering calculation tools has been established, which can be used together with other calculation tools to ensure the smooth and reasonable progress of product specification and certification. wide filter

It is widely used in surface topography measurement and analysis, and has become an important analysis tool for existing surface topography measuring instruments. The formulation and implementation of GB/T 26958

The measurement and analysis of surface topography information in the manufacturing field provides unified specification support for the development and application standardization of related instruments. This standard

The formulation of the standard is conducive to improving the diversified surface topography analysis tools and improving the quality, performance and international competitiveness of the company's products.

GB/T 26958 is proposed to be composed of 16 parts.

--- Part 1.Overview and basic concepts. The purpose is to specify the basic terms of GPS filtering and the basic flow used by GPS filtering program framework.

--- Part 20.Basic concepts of linear contour filters. The purpose is to specify the basic concept of linear contour filters.

--- Part 21.Linear contour filter Gaussian filter. The purpose is to specify the metrological characteristics of the Gaussian filter used for contour filtering.

A method for separating the long-wave and short-wave components of the surface profile is given.

--- Part 22.Linear contour filter spline filter. The purpose is to specify spline filters for contour filtering, especially

Shows how to separate the longwave and shortwave components of a profile.

--- Part 28. Contour filter end effects. The purpose is to give a method to deal with the end effect of linear contour filter

method.

--- Part 29. Linear contour filter spline wavelet. The purpose is to specify the spline wavelet and related concepts for contour filtering.

In this paper, the basic terms and applications of compactly supported spline wavelets are given.

--- Part 30. Basic concepts of robust contour filters. The purpose is to specify the basic concept of robust contour filters.

--- Part 31. Robust contour filter Gaussian regression filter. The purpose is to specify the discrete robust Gaussian regression filter

characteristic.

--- Part 32. Robust contour filter spline filter. The purpose is to specify a robust spline filter suitable for surface contours

properties, and a detailed method for separating the long-wave and short-wave components of the surface profile.

--- Part 40. Basic concepts of morphological contour filters. The purpose is to specify morphological operations and filters, including envelope filtering

Basic terminology and concepts of oscilloscopes.

--- Part 41. Morphological contour filter disc and horizontal line segment filter. The purpose is to stipulate the use of disks and horizontal line segments to construct

Techniques for element-wise computation of morphological filters including envelope filters.

--- Part 49. Morphological contour filter scale space techniques. The purpose is to specify the shape-scale space technology, and to give the scale

Basic terminology and usage of dimensional space technology.

--- Part 60. Basic concepts of linear region filters. The purpose is to specify the basic concept of linear domain filters.

--- Part 61. Linear region filter Gaussian filter. The purpose is to specify the linear domain Gaussian filter, in particular the

How to separate the longwave and shortwave components of a surface.

--- Part 71. Robust region filter Gaussian regression filter. The purpose is to specify the