ICS 49.045
CCS V 25

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 45570-2025

General technology requirements for optical gyroscope

光学陀螺仪通用技术要求

Issued on: April 25, 2025 **Implemented on: August 1, 2025**

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

Table of Contents

Foreword

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.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Standardization of Aerospace Technology and Its Applications (SAC/TC425).

This document was drafted by: Xi'an Flight Automatic Control Research Institute of China Aviation Industry Corporation, Beijing Aerospace Control Instrument Research Institute, National University of Defense Technology, Beijing Institute of Automation and Control Equipment, Beijing University of Aeronautics and Astronautics, China Ordnance Industry No. 203 Research Institute, Zhejiang University China Shipbuilding Industry Corporation No. 717 Research Institute, AVIC Jierui (Xi'an) Optoelectronics Technology Co., Ltd., Beijing Aerospace Times Optoelectronics Technology Co., Ltd.

Technology Co., Ltd., Beijing Aerospace Times Laser Navigation Technology Co., Ltd.,

Hunan 208 Advanced Technology Co., Ltd., Shanghai Aoshi Control Technology Co., Ltd., Jiangxi Chiyu Optoelectronics Technology Development Co., Ltd., and Zhejiang Aerospace Runbo Measurement and Control Technology Co., Ltd.

The main drafters of this document are: Xie Liangping, Chen Linfeng, Ma Haiquan, Zhao Xiaoning, Sha Li, Hu Shaomin, Han Chuankun, Wang Shilin, Lei Jianjun, Han Zonghu, Yang Hongyou, Wang Ke, Wan Xun, Feng Chi, Xu Xiaobin, Wang Xiaozhang, Hu Huizhu, Che Chicheng, Gu Lin, Tian Zhen, Zhang Wei, Zhou Jingshu, Li Chao, Xu Peng, Xiao Yinjing, Zhang Lizhe, Gao Yonghong, Xu Meng, Wei Tianxiao, Liu Xing, Zhang Junjun, Lu Guangfeng, Han Junhai, Huang Yun, Cheng Wenming.

General technical requirements for optical gyroscopes

1 Scope

This document specifies the product classification, technical requirements, marking, packaging, storage and transportation requirements of optical gyroscopes. Appropriate test method.

This document applies to optical gyroscopes (referred to as gyroscopes) used in aerospace (including commercial aerospace), aviation, and shipbuilding.

The field shall be implemented by reference.

2 Normative references

GB/T 191

GB/T 321

GB/T 2423.1

GB/T 2423.2

GB/T 2423.3

GB/T 2423.15

GB/T 2423.16

GB/T 2423.17

GB/T 2423.21

GB/T 2423.22

GB/T 4937.18

GB/T 34522

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Sagnac effect

The effect of optical path difference between two coherent light waves propagating in opposite directions along a closed optical path due to the rotation of the optical path.

3.2 Optical gyroscope

A gyroscope that works using the Sagnac effect of light.

3.3 Laser gyroscope

A method for measuring angular velocity or angle relative to inertial space based on the Sagnac effect and composed of a ring laser resonator. device.