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Specification for side scan sonar oceanic survey

侧扫声呐海洋调查规范

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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 is proposed by the Ministry of Natural Resources of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee for Marine Standardization (SAC/TC283). This document was drafted by: Second Institute of Oceanography, Ministry of Natural Resources, South China Sea Navigation Support Center, Ministry of Transport, Shandong University of Science and Technology, Guangzhou Marine Geological Survey. The main drafters of this document are: Gou Zhengkang, Zhang Jibo, Pan Guofu, Wu Ziyin, Wang Ping, Yang Fanlin, Wan Peng, Lai Xianghua, Hu Taojun, Zhou Qingchong, Zhang Kai, Zhao Dineng, Chen Zhijian, Shen Jiaqi, Zhou Jieqiong, Wang Mingwei, Bu Xianhai, Jiang Xinwei, Liu Hongbo, Wang Zhenhong, and Zhang Xingwei.

Specification for side-scan sonar oceanographic surveys

1 Scope

GB/T 45026-2024 is the Chinese specification for oceanographic survey by side scan sonar. Side scan produces an acoustic image of the seabed rather than a depth, which makes it the tool for finding wrecks, pipelines, cables, boulders and habitat boundaries and for mapping sediment texture, and it is unusually sensitive to how the survey is run: the towfish altitude, the range scale, the line spacing and the sea state determine whether a target appears at all, and the geometry of the image has to be corrected before anything can be measured from it. The standard sets the general requirements and the purpose of the survey, then the preparation, the equipment and its calibration, the survey design, line planning, spacing and overlap, the positioning of the towfish, the data acquisition and quality control at sea, the processing, slant range and speed correction, gain normalisation and mosaicking, the interpretation and target classification, the accuracy assessment and the products and report. It takes effect on 1 July 2025.

This document specifies the general requirements for side scan sonar surveys, instrumentation requirements, pre-survey preparation, offshore surveys, data processing and data interpretation. Requirements for interpretation, drawing preparation and report writing, inspection and acceptance, and data archiving. This document is applicable to

side-scan sonar surveys of various scales in the ocean and can be used as a reference in lakes, rivers and other waters.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB 12319 Chinese nautical chart diagram

GB 12327 Hydrographic Survey Specification

GB/T 12763.10 Marine survey specification Part

3 Terms, definitions and abbreviations

3.1 Terms and Definitions The following terms and definitions apply to this document.

3.1.1 Side scan sonar survey A survey method that uses side-scan sonar to scan the seabed, obtain seabed echo signals, and achieve seabed acoustic imaging. [Source: GB/T 12763.10-2007, 3.2, modified]

3.1.2 By measuring the distance and direction from the onboard transducer to the transponder or beacon on the underwater equipment or carrier, it can provide underwater equipment or carrier with Acoustic equipment for positioning.

3.2 Abbreviations The following abbreviations apply to this document. TVG. Time Varying Gain (TimeVariedGain)

10 Seabed topography and geomorphology survey

GB/T 18314 Global Navigation Satellite System (GNSS) Measurement Specification