Research on the Latest Selection Criteria for Major International Databases and Case Analysis

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Abstract

Objective: To systematically review the latest inclusion rules of major international databases, thereby providing reference for Chinese scientific journals seeking inclusion in relevant databases.

Methods: This study employs literature research, comparative analysis, and case study methods to systematically review the selection criteria of important international databases and the reasons for journal removal, and conducts qualitative analysis on representative successful application cases.

Results: Important international databases all maintain strict standards and standardized procedures for journal selection; Chinese scientific journals must strictly follow application processes and specifications, carefully and meticulously prepare application materials, and may conduct self-assessments or reference the latest successful application cases when necessary.

Conclusion: The inclusion of scientific journals in major international databases constitutes an important pathway for disseminating China's scientific achievements and enhancing journal influence, as well as a crucial measure for advancing from a large journal country to a strong journal country; meanwhile, China should actively promote the construction of information security assurance capabilities for scientific literature, strengthen the development of publishing, dissemination, and service platforms with broad international influence, thereby truly achieving a state where the publication of Chinese journals is equivalent to internationalization.

Full Text

Preamble

Latest Selection Criteria and Case Analysis of Major International Databases

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Abstract:
[Purposes] This paper aims to systematically review the latest selection criteria of major international databases and provide references for Chinese scientific journals applying for inclusion in relevant databases. [Methods] Using literature research, comparative analysis, and case study methods, we systematically examined the selection criteria of major international databases and the reasons for journal removal, and conducted qualitative analysis of representative successful application cases. [Findings] Major international databases all have a set of strict standards and standardized procedures for journal selection. Chinese scientific journals must strictly follow application processes and specifications, meticulously prepare application materials, and conduct pre-self-assessments or refer to recent successful cases when necessary. [Conclusions] Inclusion in major international databases is an important pathway for disseminating China's scientific and technological achievements and enhancing journal influence, representing a crucial measure for transforming China from a major journal country to a strong one. Simultaneously, China should actively strengthen its capacity for ensuring information security of scientific and technological literature and build publishing, dissemination, and service platforms with broad international influence, thereby truly achieving a state where Chinese journals are published and internationalized simultaneously.

Keywords: Scientific journal; Major international database; Selection criteria; Application case

As China's overall scientific research strength continues to grow, the academic influence of Chinese scientific journals is expanding, accelerating their march toward the ranks of "world-class journals." However, being "large but not strong" remains the fundamental characteristic of China's scientific journal industry, and weak international influence continues to be the main reason for the outflow of high-level Chinese scientific literature. Currently, how to rapidly enhance

the international influence of Chinese scientific journals, particularly Chinese-language journals, has become the top priority for strengthening the overall strength and influence of China's scientific journals. Inclusion in major international databases is an important pathway for disseminating China's scientific and technological achievements and enhancing journal influence, as well as a key direction for building world-class scientific journals [1]. In June 2022, the "Implementing Innovation-Driven Development Strategy and Building a Science and Technology Power" press conference held by the Publicity Department of the CPC Central Committee introduced that the number of Chinese scientific journals included in the internationally important journal retrieval database SCIE has nearly doubled (from 152 to 276), and the average impact factor has also increased from 1.13 to 4.42, a 2.9-fold growth [2]. According to the *Blue Book on the Development of Chinese Scientific Journals (2023)* statistical data, as of September 2023, 2,066 Chinese scientific journals have been included in international databases, among which 386 are English-language journals (35 more than in 2022), accounting for 88.94% of China's 434 English scientific journals [3]. Academician Yang Wei pointed out that China is still far from being an academic power, with academic influence just reaching the world average, and the level of Chinese scientific journals still lagging significantly behind China's levels in academic output and author influence [4].

Being included in multiple internationally renowned databases is often regarded as an important indicator that a journal has become an authoritative source of scientific information and stands out in the competitive publishing landscape. In recent years, many international databases have extended olive branches to Chinese scientific journals. Although many domestic journals have made breakthroughs in this area, many journal managers, particularly those of Chinese-language journals, have limited understanding of international database inclusion procedures, which has become a "stumbling block" for enhancing international visibility. Some scholars have introduced the basic situations and inclusion rules of certain international databases. Zhu Cheng et al. [5] introduced the current status of Chinese medical journals included in major international databases and provided suggestions on how to improve their international status. He Yueyue et al. [6] introduced the basic situations and application processes of four major databases—DOAJ, PMC, Scopus, and SCIE—and comparatively analyzed their selection criteria. Zhang Bing et al. [7] focused on investigating and analyzing the inclusion status of Guangdong scientific journals in seven authoritative international databases: AJ, CA, EI, JST, SA, SCI, and Medline.

The above studies are mostly limited to a single international database or a single discipline, and case studies have often focused on individual journals. There are few reports on comparative studies of selection criteria across multiple international databases or multi-case studies. This research employs a combination of literature research and comparative analysis to systematically review the latest selection criteria of major international databases, and to summarize and extract the operational experiences and application considerations

from representative cases, facilitating better understanding and mastery of the selection requirements of major international databases. Finally, we propose some suggestions for domestic scientific journals applying for inclusion in major international databases for reference.

1. Research Methods and Subjects

Foreign language databases can generally be classified into abstract databases, electronic journal and book databases, standard databases, patent databases, etc., according to the types of information resources they include. Abstract databases typically collect literature from the same or different publication types in comprehensive disciplinary fields or specific disciplinary branches during certain periods, and have become one of the most useful tools for researchers due to their comprehensive and systematic coverage. Given the large number of foreign language databases, this study follows the principle of high quality, high authority, and broad disciplinary coverage, referring to 17 representative foreign important retrieval systems selected in the evaluation indicators of the *Overview of Core Chinese Periodicals* [8], and considering the recognition of each database in China's academic community. We selected well-known foreign comprehensive abstract databases and open access databases (hereinafter referred to as major international databases) as research subjects, and employed literature research and comparative analysis methods to focus on examining the latest selection criteria and common reasons for journal removal in major comprehensive foreign databases such as Web of Science Core Collection, EI Compendex, Scopus, and DOAJ.

Case study methodology is an important approach for exploring existing problems and seeking solutions. When selecting cases, typicality and suitability for discovering and extending relationships and logic related to research objectives should be considered. Given that certain selection criteria are overly abstract, different journals must adopt different application strategies, and there are exceptions in actual inclusion practices, it is necessary to collect rich cases to guide specific application practices. Therefore, we employed interview surveys and analytical induction methods to conduct qualitative research on representative application cases of Chinese scientific journals.

This study selected seven scientific journals, including *Journal of Rock Mechanics and Geotechnical Engineering (English Edition)*, as case study subjects for the following reasons: First, the selection includes both Chinese and English journals, both long-established and recently launched journals, both first-time inclusions and re-inclusions, and journals from different disciplines, providing certain representativeness. Second, the selected journals have solid operational foundations and favorable recent development trends, most being national or provincial "excellent journals," and are included in multiple databases, making them ideal subjects for studying the logical relationships among various factors in database selection criteria. Third, all selected journals were included within the past five years, providing greater reference value and significance.

2.1 Web of Science Core Collection Selection Criteria and Common Reasons for Journal Removal

Web of Science (WoS) is a data service platform of Clarivate Analytics. Its rigorous and reliable evaluation and management have made the WoS Core Collection the world's most trusted, publisher-independent citation index database. The selection process for the WoS Core Collection always follows three fundamental principles: "objectivity," "merit-based selection," and "dynamic inclusion." Clarivate evaluates journals based on a unified set of standards, with 28 examination criteria divided into two parts: 24 quality assessment standards that enable selection personnel to make choices at the journal level based on editorial rigor and best practices, and 4 impact assessment standards that use citation activity as the primary indicator of influence to screen out the most influential journals in various fields. The journal evaluation process for the WoS Core Collection is detailed in reference [9].

Currently, the WoS Core Collection's master journal list is updated monthly. Inclusion in WoS is not permanent; Clarivate regularly re-evaluates journals to ensure their content continues to meet selection standards, and any journals that no longer meet quality standards are removed. The geographic distribution of removed journals' publishers is extensive, including both large commercial publishers and small or society publishers. Clarivate's technical team has developed an AI tool that helps them quickly screen out journals suspected of not meeting standards. As of March 2023, this tool has detected over 500 suspicious journals (requiring individual re-evaluation), with more than 50 flagged journals removed for failing to meet quality standards, and investigations continue [10].

Any factor that significantly negatively impacts a journal may lead to its removal from WoS, such as: (1) Excessive self-citation or citation stacking. (2) Charging high article processing fees, having high acceptance rates, and experiencing rapid growth in publication volume, raising suspicions of being a predatory journal. (3) Serious flaws in the peer review mechanism leading to extensive review fraud. For example, in April 2017, *Tumor Biology* announced the retraction of 107 papers by Chinese authors suspected of providing false peer review information. (4) Consistently extremely low impact factors and generally low paper quality. Journals must maintain certain citation volumes and influence, with impact factors not falling below minimum standards. (5) Violation of editorial policies and standards. Clarivate has extremely comprehensive and strict editorial policies and standards regarding paper quality, manuscript review processes, and writing norms, and serious violations cannot occur. (6) Low degree of internationalization. Clarivate places great emphasis on journals' international levels, such as having corresponding official English websites, publishing a certain number of English papers, and maintaining international communication channels. (7) Poor publication quality. Included journals must have high publication quality in terms of layout, language, and figures; failure to meet one or more quality standards may result in removal.

2.2 EI Compendex Selection Criteria and Common Reasons for Journal Removal

EI Compendex is a globally renowned abstract database in engineering and technology fields published by Elsevier, covering mechanical engineering, electrical engineering, computer science, chemical engineering, and other areas, with high academic and professional characteristics. Elsevier's official website publishes the EI journal selection criteria detailed in reference [11]. Elsevier conducts preliminary screening of journals based on International Standard Serial Number (ISSN), peer review type, English abstracts, publication stability, publication ethics, and digital storage policies. After passing preliminary screening, journals undergo higher-standard and more rigorous evaluation from both qualitative and quantitative perspectives, focusing on editorial policies, paper content quality, journal status and level, publication regularity, and online availability. The main selection criteria are as follows: (1) Paper quality and level. This is the basic element and prerequisite for database inclusion. (2) Journal internationalization degree. This mainly includes internationalization of sources and authors, internationalization of editorial boards and review teams, and inclusion in other major international databases. (3) Paper format standardization. EI Compendex is an abstract retrieval tool, and abstracts are summaries of paper content. The database places great emphasis on whether English abstracts comply with standards and uses them to judge the overall academic quality of journal papers. (4) Other inclusion standards. Journals should also have strict editorial policies and review processes, comply with corresponding academic ethics standards, ensure stable publication frequency without delays or interruptions, and follow EI-specified author guidelines and other format requirements during publication.

Some journals may not meet EI Compendex inclusion standards for the following reasons: (1) Opaque journal information. Such as not disclosing fee standards and plagiarism detection systems, contact person names, peer review types/processes, author contribution statements, copyright licenses, open access content, etc. (2) Paper standardization needs optimization. Such as the timeliness of references needing improvement, and abstracts, references, and figures/tables not being bilingual. (3) Website functionality needs improvement, and journal influence needs enhancement. Such as some content or links on the website being non-functional, blank, or containing invalid links. (4) Journal influence needs enhancement. Such as difficulty attracting high-quality paper submissions and weak domestic and international influence.

It should be noted that EI Compendex also regularly removes some included journals, with common reasons as follows: (1) The journal's academic influence has declined year by year. Although the discipline has distinctive features, it no longer represents the academic frontier of its field. (2) Some university journals' Chinese and English versions have overlapping published paper disciplines. (3) Broad discipline distribution without prominent professional characteristics. EI's "survival of the fittest" selection approach creates a catfish effect that high-

lights competitive awareness [12].

2.3 Scopus Selection Criteria and Common Reasons for Journal Removal

Scopus is currently the world's largest abstract and citation database, with very strict selection criteria. Journals must meet its minimum standards to be eligible to apply. The main aspects reviewed include journal policy, content, journal ranking, regularity, and online accessibility. The minimum selection criteria are as follows: (1) Publishing peer-reviewed content with a publicly stated peer review process. (2) Regular publication with a registered ISSN number. (3) References complying with relevant rules, and having English abstracts and titles. (4) Having publicly stated publication ethics and malpractice statements. (5) The journal has been published for more than two years [13].

During the process of recommending journals, the Scopus China Academic Committee found the following common reasons for Chinese scientific journal application rejections: (1) Missing or incomplete publication ethics statements. Many journals do not pay sufficient attention to specifying publication ethics, such as not clearly stating measures to prevent academic misconduct. (2) Many Chinese journals may have insufficient citations in international statistical systems. (3) Excessive regionalization. Scopus includes journals whose papers are intended for global readers. If a journal's authors are all Chinese authors from a specific range and its editorial board members are all Chinese, it will be evaluated as overly regionally biased. (4) Non-standard websites. Such as problems with web pages being inaccessible [4].

2.4 DOAJ Selection Criteria and Common Reasons for Journal Removal

DOAJ (Directory of Open Access Journals) is currently the world's largest database that exclusively includes open access journals. DOAJ has quite strict journal selection criteria and conducts in-depth reviews of applying journals from aspects including basic information, open access policies, copyright and licensing policies, and editorial policies. There are no special restrictions on journal founding time or language. The basic requirements include: (1) Regular publication with a registered ISSN number. (2) The journal has been published for more than one year or has published at least 10 papers. (3) Publishing at least 5 research papers annually.

DOAJ's selection criteria include the following aspects: (1) Open access statement. (2) Basic journal information. (3) Copyright information. (4) Editorial publishing and quality control. (5) Fee model. (6) Academic publishing transparency and best practice guidelines. All the above content must be clearly reflected on the journal website. Among them, Creative Commons licenses (CC), copyright, and peer review content are the most important aspects of DOAJ database selection [14]. DOAJ regularly removes suspicious predatory journals.

For example, in February 2023, DOAJ removed 13 journals under Hindawi due to problems with special issue publishing. DOAJ also removes suspicious or inactive publishers.

2.5 Comparison of Selection Criteria Among Major International Databases

To further compare the commonalities and differences among the main selection criteria of each database and facilitate readers' reference, this study focuses on major international databases including WoS Core Collection, EI Compendex, Scopus, and DOAJ. By querying each database's official website and application guidelines, we obtained their latest selection requirements (data query period: April 1-10, 2024). In addition to the aforementioned basic requirements and common standards, the differences in selection criteria among databases are listed in Table 1 .

Table 1 Comparison of Selection Criteria Among Selected International Databases

Selection Criteria	WoS Core Collection	EI Compendex	Scopus	DOAJ
Abstract and Indexing	English titles and abstracts required; references in Roman alphabet	English abstracts required; references in Roman alphabet	English titles and abstracts required; references in Roman alphabet	English titles and abstracts required
Disciplines	SCIE: Clinical sciences, natural sciences, technology, medicine; SSCI: Social sciences; AHCI: Arts & humanities; ESCI: All disciplines	Mainly engineering technology	Science, technology, medicine, social sciences, arts & humanities	All disciplines

Selection Criteria	WoS Core Collection	EI Compendex	Scopus	DOAJ
Minimum Requirements	2+ years of high-quality academic publishing history	2+ years publishing history	2+ years publishing history	1+ years publishing history or at least 10 published papers
Editorial/Author Diversity	Complete information on editorial/author geographic distribution; international diversity of editors/authors	Internationalization of sources and authors; international editorial board and review team	Geographic diversity of editors/authors; institutional affiliations	Not specified
Online Accessibility	Online content available; digital policies and preservation practices; English journal homepage; DOI	Online content available; English journal homepage; website quality	Online content available; website quality	All content must be immediately freely accessible upon publication; no embargo

Selection Criteria	WoS Core Collection	EI Compendex	Scopus	DOAJ
Citation Metrics	For new journals: citation performance of lead authors or editorial board members; for existing journals: impact factor and other citation data	Journal paper citation rates	Journal paper citation rates in Scopus	Not specified
Re-application Waiting Period	Editorial quality assessment failure: at least 2 years	At least 1 year	1-6 months	Editorial screening failure: 1 year; selection criteria failure: at least 2 years
Review Process	Scopus China Academic Committee preliminary review; Content Selection & Advisory Board (CSAB) final review	12-36 months	Approximately 1 year	Approximately 3 months

3.1 Representative Cases for Web of Science Core Collection

Journal of Rock Mechanics and Geotechnical Engineering (English Edition) (JRMGE) is the first English academic journal in China's geotechnical mechanics and engineering field. Sponsored by the Chinese Academy of Sciences, and co-sponsored by the Institute of Rock and Soil Mechanics of CAS, the Chinese Society for Rock Mechanics and Engineering, and Wuhan University, it was founded in 2009. Since its inception, the journal has adhered to a path of sustainable and innovative development, with main operational measures as follows: (1) Implementing a "going global" strategy, persistently soliciting high-level papers despite difficulties. (2) Innovating operational thinking, vigorously promoting the "guest editor special issue system." (3) Mobilizing expert enthusiasm, dis-

covering and cultivating young scientific and technological talents. (4) Actively organizing or participating in domestic and international academic exchange activities to enhance journal visibility. (5) Conducting regular evaluation and summary, identifying problems to create excellence. (6) Fully leveraging the roles of editorial boards and councils to create distinctive journal office characteristics. In July 2015, the journal, together with editorial board members and based on selection criteria and requirements of major international databases, conducted a pre-self-assessment and produced a self-assessment report, strictly scoring each assessment indicator in the scoring table, with a final self-evaluation score of 82 [15]. Simultaneously, the editorial team focused on internationally top-tier English scientific journals in geotechnical engineering as benchmarks, discussing how to enhance their international influence based on characteristics of newly founded journals and practical operational experience, with emphasis on examining factors such as journal visibility, recognition, and reputation, and conducting detailed analysis of operational status and existing problems to identify gaps with other renowned journals. Meticulous preparation greatly benefited the journal's application for database inclusion. Due to its emphasis on improving academic paper quality and expanding international influence, along with adequate application preparation, JRMGE was included in Scopus in 2015, ESCI in 2016, and SCIE in January 2019, achieving its first JCR impact factor of 2.829. By June 2023, the journal's impact factor had increased to 7.3 (ranking Top 2).

Advanced Photonics is a flagship journal in the global optics field, sponsored by the Shanghai Institute of Optics and Fine Mechanics of the Chinese Academy of Sciences, and jointly published by Chinese Laser Press and the International Society for Optics and Photonics (SPIE). Founded in 2019, the journal has adhered to the goal of publishing cutting-edge research results and leading disciplinary development directions since its inception, publishing multiple heavyweight review articles recognized as "must-read" in relevant fields and original papers with significant innovative value that lead disciplinary development. The editorial board, with keen insight and a sense of responsibility, serves national strategic needs and conducts thematic solicitation. Focusing on hotspots and always oriented toward guiding the dissemination and development of major scientific achievements, the journal addresses pain points in researchers' academic exploration, launches rapid publication channels from authors' perspectives to compete for international first-publication rights for first-class academic achievements. The journal uniquely focuses on interdisciplinary fields, publishing numerous papers in directions such as AI photonics and metamaterial photonics, attracting scientific attention to emerging fields and interdisciplinary areas beyond conventional hotspots but likely to profoundly influence optics research in the coming years or even decades, while actively seeking support from international leaders in optics. The journal launched a high-end interview program "Optics Masters," conducting in-depth interviews on scientific wisdom and exploration spirit of contemporary optics masters to build a platform for dialogue and exchange between young scholars and masters. In addition to interview

columns, it also holds online and offline conferences sharing the journal's name, editor-in-chief meetings, scientific paper writing training courses, and best cover selection activities, comprehensively reaching and serving global readers. Multi-form paper presentation, multi-dimensional scientific research reporting and bridge-building, and providing the latest and most important research progress to global optics practitioners in all aspects are the directions the journal has been striving for. To gather and cultivate new academic leaders, the journal actively mobilized academic community recommendations, selecting 18 young scholars active at the forefront of photonics from China and abroad to serve as young editorial board members, fully participating in manuscript review and journal promotion. In April 2021, *Advanced Photonics* was directly included in SCIE just two years after its founding, skipping ESCI, achieving its first JCR impact factor of 13.582 in June 2022, and reaching an impact factor of 17.3 in 2023.

Sustainable Materials (SusMat) (English Edition) is supervised by the Ministry of Education and jointly founded by Sichuan University and Wiley Publishing Group in December 2020, focusing on clean energy, green catalysis, environmentally friendly materials, and pollution control. Since its founding, the journal has insisted on high-quality manuscript solicitation, high-level editing and publishing, and high-impact promotion and dissemination, with a global top scientist editorial board team comprising 22 academicians from various countries leading 34 advisory editorial board members and 55 young editorial board members in interdisciplinary fields of materials, chemistry, energy, and environment. The journal has not only created online and offline academic communication brands such as the SusForum series of academic seminars, SusMaster master classes, SusFocus expert interviews, and SusSpotlight author features, but also designed dynamic covers reflecting sustainable development concepts and matching paper themes, significantly enhancing journal visibility and attracting widespread attention from global experts and scholars. SusMat published its first issue in March 2021 and was subsequently included in CAS, DOAJ, ESCI, and other databases, achieving its first JCR impact factor of 28.4 in June 2023. Just three years after its founding, it was included in SCIE in December 2023.

3.2 Representative Cases for EI Compendex

China Mechanical Engineering is an academic journal in the mechanical engineering field supervised by the China Association for Science and Technology and sponsored by the Chinese Mechanical Engineering Society, founded in 1990. In May 2017, the journal established an EI application team to facilitate management, strongly promote EI application matters, and mobilize human, material, and financial resources. The application team's specific tasks were as follows: (1) Conducting research on EI source journals, performing SWOT comparative analysis of the journal to clarify its strengths, weaknesses, opportunities, and threats. (2) Bilingual publication of paper elements. After in-depth study of EI's latest selection principles, multiple improvement measures were proposed

for paper standardization, such as adding English elements to figures and tables (bilingual labeling), optimizing English abstracts and keywords, and bilingual recording of references to enhance international visibility. (3) Adopting various measures to improve paper quality. For example, since 2017, the journal increased review requirements and rejection rates, and improved paper quality by appropriately reducing page counts, with significant results. (4) Reconstruction of English webpages. For selection institutions, journal papers and English webpages are the most direct and comprehensive sources of understanding Chinese journals. After in-depth study of English webpages of some EI source journals, the journal formulated a reconstruction plan for its English webpage and collaborated with Magtech Company to create a new webpage. The English webpage displayed journal information as completely as possible, including not only journal introduction, submission guidelines, editorial board, and subscription information, but also announcements prohibiting academic misconduct (a key focus highlighted with red background warnings), online submission systems, and electronic journals (English output version). Meanwhile, the journal took webpage content seriously, especially English expression, specifically commissioning scholars with overseas backgrounds in mechanical engineering to handle translation. (5) Improvement of electronic journals (English output version). The English electronic journal is also an important focus for EI selectors. Due to previously incomplete uploading of English information in the electronic journal resulting in incomplete English information, the journal overcame technical difficulties and eventually uploaded all English electronic back issues since 2010 (over 4,000 papers) to the journal's official website. In January 2019, *China Mechanical Engineering* was re-included in EI Compendex after a ten-year interval.

Geodesy and Geodynamics is a comprehensive academic journal in the geoscience field supervised by the China Earthquake Administration and sponsored by the Hubei Earthquake Agency, founded in 2010. Since 2015, the journal changed from quarterly to bimonthly and cooperated with KeAi Publishing, with all papers being open access on ScienceDirect. By leveraging a large international academic publishing platform, utilizing mature international distribution channels, rich academic publishing experience, and a global network market, the journal not only rapidly increased its impact factor but also greatly expanded its international exposure and influence. Before 2022, the journal had been successively included in renowned databases such as ESCI, DOAJ, Scopus, Geobase, and GeoRef. In terms of solicitation strategy, the journal focused on improving internationalization degree and paper quality as priorities. Based on the characteristics of geoscience journals and practical difficulties faced in topic planning, the journal conducted topic planning from research frontiers and scholars' long-term research work, targeting research hotspots and innovative fields. While continuously attracting excellent manuscripts from China and surrounding Asian countries, the journal strived for more high-quality manuscripts from Europe and America to improve journal quality and expand international academic influence. After years of dedicated cultivation, the journal now has a stable group of foreign authors. Additionally, the journal actively sought integration of re-

sources with scientific journals from domestic and foreign research institutions, forming a journal cluster brand in advantageous disciplines, and used the cluster brand to continuously establish and promote its own journal brand, which in turn supported the cluster and platform brands, achieving resource sharing with similar journals. Meanwhile, the editorial team conducted comparative analysis of the international influence development status of top domestic geoscience journals in recent years, macroscopically grasping the current status and advantages/disadvantages of domestic geoscience discipline development, constantly examining the development of their discipline, and timely adjusting the journal's development priorities [16]. In July 2022, *Geodesy and Geodynamics* was included in EI Compendex, achieving its first JCR impact factor of 2.4 in June 2023.

3.3 Representative Cases for Scopus

Chinese Journal of Ship Research is an academic journal in the shipbuilding industry sponsored by the China Ship Research and Development Academy, founded in 2006. Targeting Scopus's specific requirements for included journals, the journal conducted a series of preparatory work in Chinese and English website standardization, academic quality, and journal visibility: (1) Revamping Chinese and English websites, standardizing details such as publication ethics statements, copyright agreements, retraction procedures, and manuscript processing workflows, and improving content such as journal introduction, editorial board, and submission guidelines. (2) Actively applying for inclusion in other well-known foreign databases to increase international visibility, such as being included in DOAJ and JST databases in 2017 and 2018. (3) Adopting multiple measures to improve paper academic quality, such as holding topic planning meetings to determine annual key topics, implementing a special issue guest editor system, and inviting experts to serve as guest editors for special issues. Guest editors conducted targeted solicitation on a one-to-one basis and participated in reviewing special issue manuscripts, strictly controlling manuscript quality and screening high-quality papers. The journal updated paper templates to standardize paper formats from the source and improve manuscript quality. The new template added a paper self-evaluation form requiring authors to summarize paper innovation points, with emphasis on writing abstracts, introductions, and conclusions, and detailed format specifications for figures, tables, formulas, and references. (4) During application, the journal particularly emphasized that its military-industrial background was an important reason for its limited audience and low proportion of foreign authors, and highlighted its distinctive operational characteristics. *Chinese Journal of Ship Research* submitted its application in early 2019 and received Scopus inclusion notification in October 2019.

3.4 Representative Cases for DOAJ

China Oncology is a national oncology academic journal supervised by the Ministry of Education and sponsored by Fudan University Shanghai Cancer Center,

founded in 1991. In 2020, the journal comprehensively revamped its website, adding an English mirror website to ensure content consistency with the Chinese website. The journal introduction on the website added open access content, and open access information was added to the homepage menu bar. In the copyright authorization download interface, CC license information (CC BY-NC-ND) was added for authors to download. The editorial board page added institutional affiliations of board members and noted board member information. Additionally, the journal uploaded various systems to the website, publicly disclosed the peer review system, and reminded reviewers of issues requiring attention in review notification emails. The editorial office updated author guidelines annually and published them simultaneously on the website and in the journal to guide authors in writing and submission. Meanwhile, the journal required authors of research papers to sign relevant statements, provide institutional certificates and project funding certificates, and verified related content. In January 2020, *China Oncology* submitted its application to DOAJ. After initial review, rereview, and rejection, the journal conducted rectification and resubmitted its application, and was included in DOAJ in March 2022 [14].

3.5 Recommendations for Applying to Major International Databases

The above cases fully demonstrate that domestic scientific journals can follow clear rules when applying for international database inclusion, but must fully recognize the necessity and feasibility of application, enhance emphasis on application work, identify their positioning based on actual conditions, address weaknesses, and adopt a step-by-step application strategy from easy to difficult. For example, English journals can first apply for ESCI inclusion before applying for SCIE inclusion; due to language limitations, Chinese journals can consider EI as a medium- or long-term goal while actively applying for other international databases in the short term, striving to improve paper quality and academic influence during this process to increase future chances of successful EI inclusion. Simultaneously, journals should strictly conduct self-assessments according to target databases' latest selection criteria and refer to recent successful cases, applying proactively after meeting requirements to enhance international influence and dissemination through international data platforms. To address common issues encountered by various journals in database application practice, the following recommendations are proposed:

(1) **Join the Committee on Publication Ethics (COPE) membership.** Good ethics and integrity are the cornerstones of research, and ethical norms and journal ethics are the basic guarantees for academic journals. Major international databases such as WoS, Scopus, and DOAJ explicitly require that academic journal official websites must publish complete and transparent publication ethics statements, and these databases are increasingly strict in reviewing relevant statements. For Chinese academic journals to gain international recognition, they should adopt internationally universal quality selection systems and strictly comply with

publication guidelines formulated by relevant international organizations while ensuring academic quality. Currently, obtaining COPE membership and strictly implementing the "Principles of Transparency and Best Practice" may be the most convenient way to prove journal publication quality. COPE membership also provides journals with an internationally recognized credibility certificate, greatly facilitating applications to major international databases and helping shorten journal review processes [17].

(2) **Closely monitor updates to inclusion standards.** The selection criteria of major international databases continue to evolve, so applicants should timely follow the latest changes in target databases. For example, in November 2023, DOAJ announced modifications to its special issue inclusion criteria. If all content in a journal's latest year/volume is published as special issues, DOAJ will not accept it, and all new applications to DOAJ must comply with these standards. Journals already included in DOAJ will be removed if found to have published non-compliant special issues.

(3) **Strengthen connections with international retrieval institutions and domestic professional consulting agencies.** Most international retrieval institutions have offices in China, and domestic journals with application needs can regularly invite or attend policy briefings or Q&A sessions they organize, as face-to-face communication better guides specific operational practices. Journals limited by objective conditions such as human, financial, and material resources can strengthen communication and cooperation with relevant professional consulting agencies (such as the International Cooperation Working Committee of the China University Science and Technology Journals Research Association, the International Exchange and Cooperation Working Committee of the China Editology Society of Science Periodicals, etc.) to strive for early inclusion in target databases.

This study systematically reviews the latest application processes, selection criteria, and common reasons for rejection or removal of major international databases such as SCIE, EI, Scopus, and DOAJ, and qualitatively analyzes the operational experiences of some successfully applied domestic scientific journals, aiming to provide references for other journals' application practices. However, relative to the vast group of international databases, the international databases and application cases selected in this study cannot cover all disciplines, representing a certain limitation. Additionally, due to space limitations, the case analysis section did not conduct quantitative analysis and presentation of each journal's quantitative indicators. Journals should fully conduct self-assessments before formal application to ensure relevant quality and influence indicator data meet inclusion requirements. At the current stage, to enhance the overall international influence of China's scientific journals, the government and relevant industry organizations should provide scientific guidance, encouraging China's scientific journals, especially newly founded English journals, to actively apply

for inclusion in major international databases to enhance their international dissemination opportunities and breadth. Meanwhile, to strengthen China's capacity for ensuring data security of scientific and technological literature, China should actively guide and promote the construction of comprehensive or professionally distinctive large-scale publishing, dissemination, and service data platforms with independent intellectual property rights and broad international influence, thereby truly achieving immediate international publishing and immediate international dissemination of Chinese journals.

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Author Contribution Statement:
CHEN Yong: Designed the paper framework, conducted research interviews, collected cases, wrote and revised the paper;
SHE Shigang: Proposed the topic and research ideas, reviewed the paper;
HU Xiaoyang: Collected data and related materials, provided revision suggestions;
HUANG Ling: Conducted literature research and organization, revised the paper.

Note: Figure translations are in progress. See original paper for figures.