

# Bibliometric Analysis of Research Literature on She Ethnic Group's Costumes: Taking CNKI Database from 1996 to 2024 as the Data Source

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**Abstract:** In order to systematically evaluate and summarize the current status and progress of She costume research, this paper used five hundred articles indexed by China National Knowledge Infrastructure (CNKI) as the research data, and applied the methods of bibliometric analysis and content analysis. The paper conducted a visualization analysis from five perspectives: numbers of annual article, key authors, distribution of institutions, journals, and research hot spots. The study showed that "research on She costume" had gone through three stages of initial exploration, continuous development, and fluctuating rise, and had formed a research group centered on ethnology studies in Fujian, Zhejiang, and Jiangxi provinces. Some research results have received attention from high-impact journals in the humanities and social sciences, but there are regional differences in research objects and content. The research themes focus on the ethnic elements, historical evolution, inheritance and development, innovative design, and application practice of She ethnic group's costume. The future trend will focus on precision analysis, innovative design, and restoration driven by digital technology.

**Keywords:** She ethnic group, Costume, Research status, Bibliometric analysis, CNKI database

## 1. Introduction

As an important part of Chinese traditional clothing culture, She ethnic group's costume not only carries the unique ethnic history and cultural tradition of She ethnic group people, but also reflects its living environment, mode of production and aesthetic tendency. In recent years, with the enhancement of the awareness of cultural protection of ethnic minorities, the research on She ethnic group's costume has gradually attracted the attention of the academic circles. China National Knowledge Infrastructure (CNKI), as the largest Chinese literature database in China, contains a large number of research articles on the clothing of She ethnic group, which provides valuable data resources for the systematic analysis of the research status, development trend and existing problems of the clothing of She ethnic group. Based on the research literature data of She ethnic group's costume from 1996 to 2024 in CNKI, this paper applied Vosviewer and CiteSpace software to carry out literature visualization analysis from five aspects: annual numbers of articles, key authors, distribution of institutions, journals and research hot spots, in order to provide researchers with a clear academic context and a clear research direction.

## 2. Data sources and research methods

### 2.1 Sources of data

To understand the current research situation of "She ethnic group's costume" in China from 1996 to 2024. The sample of the article is taken from the "China National Knowledge Infrastructure" (CNKI). Using the advanced retrieval function, the search form is limited to: theme = "She costume". The matching mode is "accurate matching". The literature retrieval work was completed on September 24, 2024. A total of seven hundred and fifty articles on She ethnic group's costume research were obtained, and 500 valid articles were obtained after manual screening of the collected documents and removal of non-effective academic achievements.

## 2.2 Research methods

Bibliometrics is a discipline and method to find the dynamic characteristics of knowledge from the quantitative relations and laws of literature. This study is analyzed by VOSviewer and CiteSpace. Content analysis is a qualitative analysis method based on content theme, which can mine the content characteristics of information. Therefore, this study combined the method of bibliometrics and content analysis into the overall study. First of all, based on the statistics of five hundred articles collected in CNKI database, the overall trend and characteristics of She ethnic group's costume research in China were analyzed. Then, the final selected five hundred articles were exported in Refworks format. Finally, through Cite Space6.1.R3 and VOSviewer1.6.20 software, the distribution of authors and institutions, journals and keywords in the literature were quantified and visually analyzed, in order to further explore the research hot spots and development trends in the field of She ethnic group's costume in China.

## 3. Results and analysis

### 3.1. Analysis of the quantity of articles issued every year

The quantity of articles can analyze the research hot spots and evolution trend of each period as a whole through the number and distribution of articles, which is of great significance for predicting the future development trend of She ethnic group's costume research. Figure 1 shows the statistics of the number of articles published in the field of She ethnic group's costume research since 1996. According to the statistics of CNKI, the study of She ethnic group's costume can be divided into three periods:

1) The preliminary exploration stage was in the first period (1996-2003). At this stage, the research papers were published less and the year distribution was uneven. Seven academic papers were published, accounting for 1.4 percent of the total. The results show that Ma Gungming, Lei Zhiliang, Huang Xiangchun and Zhong Xiaoying are the representative scholars who began to study the clothing of the She ethnic group. Their research took the clothing of She ethnic group as the research object. A preliminary exploration and research focused on the characteristics of She ethnic group's costume and Phoenix clothing<sup>[1-4]</sup>, the research results provided materials for follow-up research.

2) The stage of sustainable development was in the second period (2004-2018). This stage ushered in a lot of academic attention, the number of research papers continued to rise, and 264 articles were published in thirteen years, accounting for 52.8 percent of the total. Its research results benefited from the approval and implementation of the Convention for the Protection of the Intangible Cultural Heritage published by UNESCO in 2004 and the inclusion of the clothing of She ethnic group in the second batch of ethnic intangible cultural heritage list approved by the State Council in 2008 and the promulgation and implementation of the Intangible Cultural Heritage Law of the people's Republic of China in 2011. Researchers had carried out in-depth research from the aspects of She ethnic group's clothing patterns, artistic connotation, inheritance and protection<sup>[5-6]</sup>.

3) The fluctuation rising stage was in the third period (2019-2024). In a short period of six years, 226 academic articles have been published, accounting for 45.2 percent of the total, and the number of core papers has also increased significantly. In particular, the number of articles published in the study of "She ethnic group's costume" in 2022 showed a rapid "blowout" trend. In recent years, the reasons of the rise of clothing-related data of She ethnic group are as follows. On the one hand, She ethnic ribbon weaving skills were successfully included in the fifth batch of ethnic intangible cultural heritage list in 2021. This honor has greatly enhanced the popularity and influence of the clothing culture of She ethnic group. On the other hand, it was also closely related to the background of the creative transformation and innovative development of excellent Chinese traditional culture and the promotion and implementation of rural revitalization, which provided a broad space and opportunity for the research of She ethnic group's costume. Under this background, researchers paid more and more attention to the exploration and innovation of She ethnic group's costume in the fields of cultural products, interaction design, brand design and so on. Especially in the past two years, with the vigorous development of digital economy, new fields such as "information", "digitalization" and "intelligence" have also increased new vitality into the research of She ethnic group's costume, producing a series of new research results<sup>[7]</sup>.

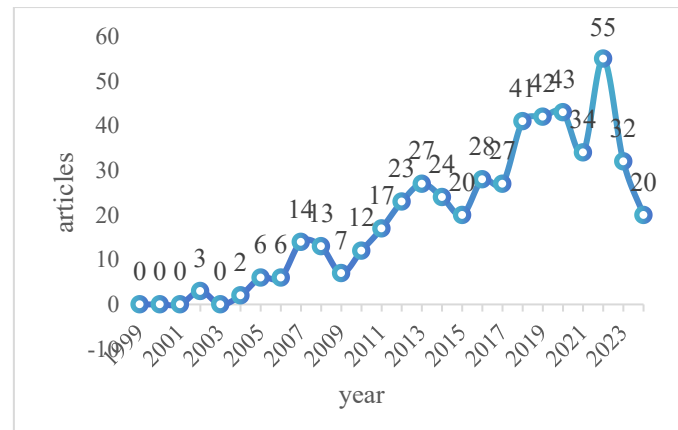


Figure 1 Number of papers in the field of She ethnic group's costume research that have been published since 1996.

### 3.2 Key authors analysis

The top ten authors in terms of numbers of publication through CiteSpace software (As shown Table 1). Then, based on the retrieved She ethnic group's costume literature, according to the CNKI database, the data of the cited number of papers are sorted out, in which the number of She ethnic group costume research literature cited in the top ten is shown in table 2.

As can be seen from tables 1 and 2, among the fifteen articles published by Professor Chen Jingyu of Zhejiang Sci-Tech University, eleven articles were published by the first author and correspondence author, among which eight articles were from core journals. The article "Study on the solid protection and live inheritance of ethnic costume: take a case of She ethnic group in Jingning Zhejiang" received the most attention, with thirty three citations. Starting with the material and non-material analysis of ethnic clothing, this paper analyzed the impact of contemporary social economic and cultural development on ethnic clothing, taking Jingning She Autonomous County of Zhejiang Province as an example. This paper pointed out the alienation and hybrid phenomenon in the development of ethnic clothing, as well as the problem of clothing ecological environment loss, and then puts forward the viewpoint of material solid protection and non-material living inheritance of ethnic clothing, which provided new thinking into the inheritance and development of ethnic clothing [8]. From the analysis of the quantity and quality of the articles published by professor Chen Jingyu's research has laid a solid theoretical foundation for future generations' research. In addition, it is known from table 2 that the earlier documents "Phoenix worship of she ethnic group and its Origin" and "Characteristics and connotation of She ethnic group's costume" were published in 1996 and were cited thirty nine times and thirty two times respectively. Chen Xu's "She's female costumes pattern in Ningde and Xiapu of Fujian" was cited the most frequently, which was forty times. This document mainly analyzed the female dress pattern of She ethnic group in Xiapu area of Ningde, Fujian Province [9].

Table 1 Top ten authors of She ethnic group costume research in publication volume.

Serial number	Author	Number of publications/article
1	Chen Jingyu	15
2	Yu MIn	9
3	Wu Weiwei	7
4	Liu Yunjuan	6
5	Xin Yufeng	6
6	Qu Yi	6
7	Chen Dongsheng	6
8	Liu Jun	6
9	Zhang Shouyong	5
10	Yan Jing	5

*Table 2 Top ten literature about She ethnic group's costume research in terms of citations.*

Serial number	First author	Institution	Title of article	Be referenced / times	Journal	Time of publication / year
1	Chen Xu	Min Jiang University	She female costumes pattern in Ningde and Xiapu of Fujian	40	"Journal of Textile Research"	2009
2	Huang Xiangchun	Xiamen University	Phoenix worship of She ethnic group and its Origin	39	"Guangxi Ethnic Studies"	1996
3	Li Fangyuan	Zhejiang Sci-Tech University	Interpretation of She ethnic group's Costume Pattern Based the Perspective of Artistic Anthropology	33	"Packaging Engineering"	2015
4	Chen Jingyu	Zhejiang Sci-Tech University	Study on the solid protection and live inheritance of ethnic costume: take a case of She ethnic group in Jingning Zhejiang	33	"Silk"	2011
5	Lei Zhiliang		Characteristics and connotation of She ethnic group dress	32	"Journal of South-Central Minzu University(Humanities and Social Sciences)"	1996
6	Chen Jingyu	Zhejiang Sci-Tech University	The Status and Conservation of She Costume in Jingning	30	"Journal of Zhejiang Sc-iTech University"	2011
7	Wang Yizhou	Zhejiang Sci-Tech University	Recognizing costume features of She ethnic group in different areas based on eye-moving experiment	27	"Silk"	2016
8	Chen Jingyu	Zhejiang Sci-Tech University	Survey and Research on Costumes of She ethnic group from the Perspective of Artistic Anthropology	24	"Silk"	2013
9	Xiao Mang	Communication University of Zhejiang	Protection value of the intangible cultural heritage of She ethnic group "Phoenix Costume"	24	" Journal of South-Central Minzu University ( Humanities and Social Sciences ) "	2010
10	Li Xiaowen	Ethnic Research Institute of Guangdong Province	Looking at the Cultural Evolution from their Dresses and Ornaments	24	"Journal of Minzu University of China ( Philosophy and Social Sciences Edition ) "	2002

### 3.3 Analysis of the issuing organization and cooperation graph

*Table 3 Top ten academic institutions in terms of She costume research based on publication volume.*

Serial number	Institution	Numbers of publications/ article	Year	Centrality
1	Zhejiang Sci-Tech University	50	2005	0.01
2	Fujian Normal University	21	2006	0.00
3	Jiangxi Garment Institute	20	2014	0.00
4	Min Jiang University	17	2013	0.01
5	Jiangnan University	12	2011	0.01
6	Fuzhou Institute of Foreign language and Foreign Trade	11	2017	0.00
7	Zhejiang Agriculture and Forestry University	10	2013	0.00
8	Sanming College	10	2019	0.00
9	Suzhou College	6	2016	0.00
10	Ningde Vocational and Technical College	6	2018	0.00

Import the sorted documents into the CiteSpace software, and get the top ten institutions of She ethnic group's costume research (As shown in Table 3). Zhejiang Sci-Tech University, Minjiang University and Jiangnan University cooperate most closely, among which the research institution with

the largest number of papers was Zhejiang Sci-Tech University. Through the in-depth study of the cooperative relationship, it was found that the current cooperative relationship in the field of she clothing research belongs to the same discipline system and the same university internal cooperation. From the geographical distribution of research institutions, the current research on She ethnic group's costume was mainly concentrated in Fujian, Zhejiang and Jiangxi provinces, while the research results in other provinces are relatively few. It reflected that the regional limitation of She ethnic group's costume was obvious.

### 3.4 Statistical analysis of source journals

Applying the "Subject Bibliography" function of Endnote software and analyzing the data, which can be seen that the existing research results of She ethnic group's costume were mainly published in two hundred Chinese journals, and the top ten journals with the total number of articles shown in Table 4. By consulting the Overview of Chinese Core Journals of Peking University (2023 Edition) and the Chinese Social Science Citation Index of Nanjing University (2023-2024), it can be seen that there were eighteen CSSCI source journals and sixty three Peking University core journals in the fields of art, ethnology, comprehensive social science and university journals. The high-quality publications include "Silk", "Journal of Clothing Research", "Journal of Textile Research", "Decoration", etc. A total of seventy one articles accounted for 14.2 percent of the total. It can be seen that the research results of She ethnic group's costume continued to be concerned by the journals with high influence in the field of humanities and social sciences, which fully proved that She ethnic group's costume had important research value that cannot be ignored. However, it should also be noted that despite these positive signs, the proportion of research results published in core journals is still low. This phenomenon showed that there was still great space for improvement in the level of the current papers on She ethnic group costume research and the depth of interdisciplinary research.

*Table 4 Top 10 journals in the research field of She ethnic group's costume in terms of the total number of papers published.*

Serial number	Source periodical	Numbers / articles	Proportion/ percent
1	"West Leather"	19	16.2
2	"Textile Reports"	16	13.6
3	"Silk"	13	11.1
4	"Light and Textile Industry and Technology"	12	10.3
5	"Popular literature and art"	10	8.5
6	"Journal of Clothing Research"	10	8.5
7	"Journal of Textile Research"	10	8.5
8	"Journal of Zhejiang Sci-Tech University"	9	7.7
9	"Journal of Lishui University"	9	7.7
10	"Decoration"	8	6.8

### 3.5 Keyword analysis

Key words are natural language words that express the concept of literature theme, which can highly summarize and reflect the content of literature research. Through the analysis of the word frequency and co-occurrence relationship of key words, it is helpful to reveal the overall content characteristics of the research results, and to grasp the internal relationship between the clothing research contents of She ethnic group and the development context and direction of academic research. this is an important way to explore hot topics in the research field.

Because VOSviewer visualization software can effectively avoid the problem of coincidence of keyword expressions, it can directly reflect the relationship between objects. Therefore, the Refworks file format of " She ethnic group's costume" data derived from CNKI database was imported into VOSviewer software. 899 keywords are obtained after literature processing, and "minimum number of occurrences keyword=2" was set, the minimum number of occurrence of each keyword was two. Visual analysis showed that there were two hundred and four numerical values that meet the requirements.

Then, sort out two hundred and four keywords collected, eliminate the non-practical meaning and repetitive words, and finally get one hundred and forty seven effective keywords. In order to directly show the importance and internal relationship of effective keywords, the co-occurrence of one hundred and forty seven valid keywords were visualized through VOSviewer software. Select the overly visualization view to get the keyword interval graph. In the keyword interval graph, the node purple represents the interval of the keyword before 2014, and the node yellow represents the interval of the keyword before and after 2020. The closer the keyword node is to purple, the longer the research hot spots of the keyword node is, on the contrary, it shows that the keyword of the research node tends to be at the forefront.

After analyzing the word frequency and co-occurrence relationship of keywords, the keywords in the top eighteen of their occurrence frequency were sorted out in Table 5. The top ten keywords were "She ethnic group", "She ethnic group's costume", "inheritance and protection", "cultural connotation", "innovative design", "totem pattern", "She ethnic group Phoenix costume", "intangible cultural heritage", "She ethnic group culture" and "artistic characteristics". The weight in the table indicated the importance of the node in the network, which can reflect the direction of the research field to some extent. Excluding nominal words, "inheritance and protection" (132), "cultural connotation" (94), "innovative design" (78), "totem pattern" (67), "Phoenix costume of She ethnic group" (60) are five core hot areas of She ethnic group's costume research. The interval map clearly revealed the time context of the clothing research of the She ethnic group. At first, the research mainly focused on the cultural changes and inheritance and protection of She ethnic group costume. With the deepening of the study, it gradually turned to the in-depth exploration of the cultural connotation and artistic characteristics of She ethnic group's costume. At present, the research has shifted to the innovative design and re-application practice of She ethnic group's costume, showing the development trend and cutting-edge trends in the field of She ethnic group's costume research.

*Table 5 Keyword co-occurrence frequency table of She ethnic group's costume research.*

Sequence number	Keyword	Co-occurrence frequency	Weight	Sequence number	Keyword	Co-occurrence frequency	Weight
1	She ethnic group	166	319	10	Artistic characteristics	14	39
2	Costume of She ethnic group	117	226	11	Creative products	14	36
3	Inheritance and protection	66	132	12	Applied research	14	29
4	Cultural connotations	47	94	13	Clothing shape	14	29
5	Innovative design	39	78	14	Costume design	12	27
6	Totem pattern	29	67	15	Traditional culture	11	21
7	Phoenix costume of She ethnic group	26	60	16	Cultural transformation	11	16
8	Intangible cultural heritage	26	40	17	She ethnic group in eastern Fujian	10	20
9	Culture of She ethnic group	19	27	18	Eastern Fujian area	10	18

#### 4. Conclusion and Prospect

Taking bibliometrics as the research tool and relying on the data resources of CNKI database, this paper made an in-depth visual knowledge graph drawing and research trend analysis of five hundred articles in the field of she clothing research by applying VOSviewer and CiteSpace software. Based on this, the following conclusions are drawn:

The main results are as follows: (1) Since 1996, the number of articles published in the research fields related to the clothing of the She ethnic group had shown an increasing trend year by year. Especially in 2008, after She ethnic group's costume was listed in the second batch of ethnic intangible cultural heritage list approved by the State Council, the number of documents issued in this domain increased rapidly. The research content was extensive, covering the historical changes, social functions, symbols of clothing, the meaning, production technology and other aspects. At the same time, with the

continuous development and attention of digital technology, the digital protection and inheritance of She ethnic group's costume had increasingly become the focus of research. (2) The research results of "She ethnic group's costume" mainly came from the research scholars and local publishing institutions in the She ethnic group area, forming a research group dominated by the ethnological study of Fujian, Zhejiang and Jiangxi. Some of the research results had been continuously concerned by the journals with high influence in the field of humanities and social sciences. However, on the whole, the proportion of high-level articles was still low, which was related to the loose relationship of research team cooperation and the lack of cross-school and cross-regional cooperation. In order to protect and inherit the culture of She ethnic group more effectively and promote the innovative development of the research in this field, it was suggested that the academic communication and dialogue among different disciplines should be strengthened in the future research, so as to promote the exchange and cooperation among different research areas and expand the depth and breadth of She ethnic group costume research. (3) Through the analysis of keyword co-occurrence map and time zone map, the research status of She ethnic group's costume can be classified into the following three theme categories: the first theme was the ethnic elements and historical changes of She traditional clothing; the second theme was the inheritance and development of She ethnic group's costume culture; the third theme was the innovative design and application practice of She ethnic group's costume. The three themes reflect the history and present situation, inheritance and innovation process of the clothing research of She ethnic group. From the perspective of research time sequence, the study of She ethnic group's costume had experienced the transformation from the discussion of cultural change and inheritance and protection, to the in-depth exploration of cultural connotation and artistic characteristics, and then to the transformation of innovative design and practical application.

To sum up, the visual analysis of the clothing research field of She ethnic group with the help of VOSviewer and CiteSpace software can directly reveal the key authors and institutions, research hot spots and the dynamic evolution of knowledge network in this field. This study not only provides researchers with a macro perspective to examine the academic exploration process of She ethnic group costume culture, but also greatly enriches the theoretical system of She ethnic group's costume research, and promotes the systematic and scientific process of research in this field. At the same time, it also provides valuable reference data and analysis framework for the follow-up research.

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