**REVIEW ESSAY** 



# Mapping the Literature on China and Russia in IR and Area Studies: A Bibliometric Analysis (1990–2019)

Maria Mary Papageorgiou<sup>1</sup> · Alena Vieira<sup>2</sup>

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# Abstract

Studies focusing on China and Russia, whose relationship is of key importance to the configuration of the international system, have been evolving dynamically in various disciplines. We analyze the evolution of this research by focusing on the fields of International Relations and Area Studies. This novel bibliometric study employs *Biblioshiny*, *AntConc*, and *VOSviewer* to analyze 947 publications collected from the Web of Science Core Collection, focusing specifically on 266 publications in International Relations and Area Studies. While mapping research on China and Russia over the last three decades (1990–2019), we identify the main trends regarding the annual distribution of papers, document types, dominant journals, collaboration networks between countries, and the most productive authors. We also establish prevailing research themes resulting from keyword analysis and their respective growth over time, as well as the density of the most frequently used terms and methods employed in the selected research fields. Finally, we identify fruitful avenues for further research, while also demonstrating how the bibliometric approach can inform and direct developments on China and Russia studies.

Keywords China · Russia · Bibliometrics · Sino-Russian · Cooperation

# Introduction

China and Russia are key international actors whose rapprochement in the post-Cold War era has attracted a lot of interest, both in academia and beyond. The evolution of the relationship between a former superpower and a rising one has been critical to both regional (especially in Eurasia and Asia–Pacific) and international strategic dynamics, given its implications for the future configuration of the international

Maria Mary Papageorgiou maria\_marypapageorgiou@hotmail.com

<sup>&</sup>lt;sup>1</sup> University of Minho, Braga, Portugal

<sup>&</sup>lt;sup>2</sup> Department of Political Science, School of Economics and Management, University of Minho, Braga, Portugal

system. China and Russia relations are therefore of central importance to scholars of international relations (IR) and area studies (AS).

At first approximation, several literature streams stand out from the analysis, ranging from analyses of various aspects of their bilateral relationship (including the nature of their relationship) to Sino-Russian cooperation in international organizations, as well as their respective positions in the international system, regional cooperation dynamics and comparative analyses of (aspects of) their political systems. Accordingly, as far as their bilateral relations are concerned, various aspects of their cooperation have been covered extensively, including military, security, political, economic and energy affairs [1]. China and Russia have been found to be continuously strengthening their cooperation in a number of areas, including arms transfers [2, 3], military exercises [4, 5], trade, oil and energy [6, 7], Røseth [8], investments [9], technology and space [10, 11], and cultural exchanges [12]. Studies addressing their cooperation in international institutions [13–15] have covered the establishment of and their cooperation within the BRICS framework and under the Shanghai Cooperation Organization, as well as their partnering on the Belt and Road Initiative and the Eurasian Economic Union [16–22] In addition, (the similarity of China and Russia's UN voting has attracted academic interest [23, 24]. Finally, geography has played a prominent role in China and Russia studies, with the common border featuring as an important factor of both tensions and rapprochement between Moscow and Beijing [25–27]. Focusing on the Sino-Russian common neighborhood, and especially Central Asia, several studies have hRussia's energy relations with China: passing the strategic threshold?.ighlighted this region as a factor of friction between the two states [28, 29]. Sino-Russian disagreements have been equally identified in China and Russia's policies towards the countries of Asia–Pacific [30] and in the Arctic [31, 32].

As far as research regarding the international political weight of the two states is regarded, the Sino-Russian relationship has been frequently investigated as a prospective alliance aimed at counterbalancing the most powerful international actor (the United States [US]), which has led to a an established research stream [33–35].

A significant volume of scholarly work has been devoted to the nature of the Sino-Russian relationship, with two opposing narratives rising to the top. Firstly, there are the skeptics, who characterize it as an axis of convenience [36], a presidential pseudo-alliance [37], opportunistic [38], or a limited-defensive strategic partnership [39]. Secondly, there are those who view it as a rapidly evolving relationship with strong foundations [40, 41], a rising and transformative collaboration [42] a true dialogue fostering bilateral trade and cooperation [43] and an 'alliance in the making' [44–47]. Even though the two partners have refrained from calling one another allies, their strategic partnership and its potential to advance toward an alliance is frequently examined [33, 46, 48]. Arguments by authors employing a perspective of soft balancing, in which China and Russia attempt to impede the action of the US [49–51], have added an interesting dimension to this debate. Since 2014, the 'shift in strategic thinking' resulting from Russia's actions in Ukraine has fueled the discussion on the prospects of balancing and alliance formation between Russia and China. As such, Russia's 'turn to the East' (*povorot na Vostok*)<sup>1</sup> in

<sup>&</sup>lt;sup>1</sup> See Karaganov, S. and Makarov I. (2014, 18 January). Strategy XXI: Pivot East. vedomosti.https:// www.vedomosti.ru/newspaper/articles/2014/01/28/povorot-na-vostok

2014 has been identified as a landmark in their relationship, while creating an uneasiness in the Western world and especially the US.

Lastly, their individual relationships with neighboring countries and other international organizations and actors constitute further important themes [26, 52–55], as do Comparative Politics and International Political Economy studies focusing on the dynamics of China and Russia's economic transformations from central planning to market-oriented systems (e.g., [56]).

China and Russia studies comprise a rich and varied state of the art that has grown over time. They often focus on the Sino-Russian relationship, including the ambiguity surrounding Sino-Russian cooperation at both the regional and global level. In light of the rapidly growing interest in Sino-Russian relations, a bibliometric analysis of China and Russia studies to identify main research tendencies and map areas and aspects requiring further research is long overdue.

The present study aims to employ a comprehensive bibliometric analysis of China and Russia studies to demonstrate that this approach not only allows for the identification of the main publication trends, but also permits drawing important conclusions on the evolution of China and Russia studies and their multidimensionality. Specifically, this study seeks to answer the following questions:

- 1. -What are the bibliometric characteristics of the publications on China and Russia studies in both IR and AS?
- 2. -What are the main publication themes and how have these evolved over time?

Thus, our objective is threefold: to answer the established research questions, to generate a visual knowledge structure of the literature, and to identify avenues for future research. To do so, we draw on a bibliometric analysis of results including *'China and Russia'* or *'Sino-Russian'* in their title as extracted from<sup>2</sup> the Web of Science (WoS) database, relative to the period of 1990–2019. This period was selected to account for the evolution of the relations between the two countries in the post-Cold War era, while also capturing China's impressive economic performance. The analysis further includes visualizations of the results (drawn on VOSviewer, Biblioshiny) and content analysis (AntConc) to establish the most prominent terms used.

First, we find that the results demonstrate a heightened interest in China and Russia studies, especially between 2010 and 2019. Publications referring to the two countries grew particularly rapidly from 2014 onward. Second, these studies have mainly focused on the cooperation between the two actors of this political dyad including examining whether 'alliance' and 'strategic partnership' are adequate designations for this relationship—and on the US as an important factor influencing their bilateral cooperation (a finding that is supported by the keyword analysis, the abstract word frequency and the density analysis). Third, while journal articles are the prevailing forms of publication, the US and the United Kingdom (UK) originate the most publications on the topic, and both of these countries form the strongest collaborative ties. Fourth, interestingly, there is no network between China and

 $<sup>^2</sup>$  The results include the date of retrieval, as other publications are adwhich China and Russia attempt to impede the action of theded to the database regularly.

Russia in IR and AS, although China and Russia studies as a research topic has managed to attract the interest of a large number of authors, which attests to its dynamic nature. Fifth, we find that Korolev and Wishnick are the most productive authors, while Wishnick and Rozman hold the longest publishing record, dating back to 1996. And finally, *Europe Area Studies, International Affairs, China Journal* and *Slavic Review* are the journals that have published the most on China and Russia studies. This allows us to conclude that both IR and AS journals have been actively involved in China and Russia studies, regardless of their differences in terms of aim and scope.

Despite identifying these important trends in research, our bibliometric analysis has some limitations. First, we limited our data to publications included in the WoS, which mostly cites English-language publications. Furthermore, our main search for *China and Russia* and *Sino-Russian* in titles may have excluded other contributions focusing on the study of the two countries either at the bilateral or multilateral level; here, we acknowledge that other possible searches, including 'Chinese' and 'Russian' or searching for these terms as a 'topic' (rather than as a 'title'), could have produced a higher number of results. Lastly, we do not consider publications on China and Russia in research fields other than IR and AS, such as Economics, History, and Business, where the number of publications has also been growing.

The article is structured as follows: the section below outlines the methodology and data collection process, followed by a general description of the findings across different research areas during the selected time period, and a more detailed analysis of the results retrieved in IR and AS specifically. We also present the results of the content analysis of keywords, titles and abstracts, as well as their density and growth over time. We then conclude by summarizing the results of the analysis and outlining avenues for future research.

#### Method and Data Collection Process

The study of publication and citation patterns, known as bibliometrics, refers to the analysis of academic literature using quantitative methods [57]. Bibliometric studies, according to Aria & Cuccurullo [58], complement the literature review on a topic by organizing, structuring and quantifying the available bibliographic information. This method can be defined as 'the measurement of all aspects related to the publication and reading of books and documents' (Otlet, 1934<sup>3</sup>). The five stages of the analysis correspond to study design, data collection, data analysis, data visualization and interpretation [59]. Among the first authors who studied publication patterns, and particularly the authorship of articles, are Holsti [60] and Wæver [61], which allowed them to identify an Anglo-American or US hegemony in International Relations.

<sup>&</sup>lt;sup>3</sup> As found on p. 1456 in Drijvers, P., Grauwin, S. & Trouche, L. (2020). When bibliometrics met mathematics education research: the case of instrumental orchestration. ZDM Mathematics Education 52. Otlet, P. (1934). Traité de Documentation: Le Livre sur le Livre, Théorie et Pratique. Mons: Editiones Mundaneum.

While there is a rapidly growing number of bibliometric studies in different research areas, such as security studies [62], conflict [63], globalization [64], European Union studies [65] and terrorism [66], we know little about the dynamics of academic research on China and Russia. This is not to say that there are no bibliometric studies on China or Russia individually, however. Analysis of the former includes the Belt and Road Initiative [67], the China-US 'race' to lead the citation index [68] or China's international cooperation in science [69], in addition to the (more general) studies of China-related articles [70, 71]. In regard to Russia, existing bibliometric studies include analysis of the research performance of the Rus-

sian Academy of Sciences [72], Russia's performance in energy and fuels [73] and, from a comparative perspective, the analysis of publication patterns in Russia and the West (focusing on select universities) [74]. In addition, there are bibliometric studies that analyze Russia and China among several other countries, such as the modernization study [75] or the analysis of the most frequently cited papers from BRICS countries [76, 77].

The present contribution aims to provide the first systematic overview of China and Russia studies and offer suggestions for future research. To achieve this goal, we examined the topic in various aspects, such as publication year, publication language, scholarly production (by year and by decade), document type, publication distribution by country, most relevant authors and most frequent keywords. Our data corresponds to all publications recorded in the WoS core collection database that include the terms 'Sino-Russian' or 'China and Russia' in their titles. WoS is one of the oldest, largest and most representative databases, covering a comprehensive academic collection of information resources that includes '1.7 billion cited references from over 159 million records' (Web of Science 2020).<sup>4</sup>

We started by searching for scholarly works with '*China and Russia*' or '*Sino-Russian*' in their title using the WoS' advanced search function to retrieve publications focused on the two countries, either explicitly in terms of their bilateral relationship or in reference to other countries and organizations. The time span for the search query was set to 1990–2019, yielding 947 results, retrieved in April 2020. The selected period encompasses various stages of rapprochement between the two countries in the post-Cold War era. Subsequently, we focused on publications in international relations (IR) and area studies (AS), narrowing the results down to 266 contributions. First, the exported files were analyzed using Biblioshiny, a bibliometric application for bibliometrix<sup>5</sup> to acquire information on the publication years, most productive authors and the journals publishing the most on the topic. Second, we performed a content analysis of the abstracts and keywords using the AntConc linguistic tool<sup>6</sup> to tease out main avenues of research in Russia and China studies. Lastly, we created relation and density maps using VOSviewer<sup>7</sup> to establish the

<sup>&</sup>lt;sup>4</sup> https://clarivate.com/webofsciencegroup/solutions/web-of-science/

<sup>&</sup>lt;sup>5</sup> An R-tool for comprehensive science mapping analysis [58]

<sup>&</sup>lt;sup>6</sup> Anthony, L. (2014). AntConc (Version 3.4. 3) [Computer Software]. Tokyo, Japan: Waseda University.

<sup>&</sup>lt;sup>7</sup> Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics, 2(84), 523–538.

co-occurrence and close proximity of the most frequently used terms. It is our hope that this multidimensional, analytical perspective drawing on a number of functions provided by the selected software has allowed us to provide a comprehensive bibliometric analysis of China and Russia studies.

# Results

#### **General Findings**

The sections below present our key findings. Table 1 shows the primary information about the 947 publications from between 1990 and 2019 that include the terms *'China and Russia'* or *'Sino-Russian'* in their titles, dividing them into research areas according to their WoS categorization. The topic is clearly quite heterogeneous, covering various different fields: Political Science leads with a total of 151 publications, followed by International Relations (143) and Area Studies (135), as well as Economics (106), History (77), Management (42) and Business (39).

As shown in Table 2, which refers to document types per research area, 514 publications correspond to articles (54%) and 222 to book reviews (23%). The rest include conference paper proceedings, editorial materials, news items and reviews. In IR and AS, the categories are quite similar, with 146 articles (55%), 101 book reviews (38%) and 17 proceeding papers (6%). This suggests that original articles on the topic are more prominent.

Figure 1 presents the yearly scientific production on China and Russia, demonstrating that the first publications date back to 1993. Very few publications were published in the early 1990s, irrespective of the research field; it was only after 1993 that publications began increasing in number in all fields, and in IR and AS in particular.

However, subsequent growth in the number of publications was uneven, with surges of production across all research fields in 1996, 1998, 2001, 2006, 2010, 2013, 2015 and 2018. It can also be observed that the academic interest in this relationship after 1993, with an upward trend in publications in all research fields, reflects the growing rapprochement between China and Russia beginning in 1992. In a similar manner, the years 1996, 2001, 2012, 2015, 2018 and 2019 display the highest production of research in IR and AS. Remarkably, the boost in production in both categories was almost threefold after 2014, with 2018 being the year with the highest production both generally and in IR and AS specifically.

# Descriptive Bibliometric Analysis of International Relations and Area Studies

Table 3 summarizes some of the most important information on the 266 IR and AS publications. 97 journals published articles on China and Russia, accompanied by a total of 337 keywords. The total number of authors is 283, of which 178 are authors of single-authored documents and 105 are of multi-authored documents. From the

266 publications the 213 documents correspond to single author publication. In addition, the average number of citations per document is 3.479 and the co-author collaboration rate is 1.25.

#### Annual and Decadal Scientific Production

There is significant variation in the academic production in IR and AS over time, corresponding to a pattern that is far from the continuous, incremental growth that could be expected in light of an ever-stronger Sino-Russian partnership (Fig. 2). A rather steady level of production in 1996-1998 and in 2006-2010 contrasts with the increase in scholarly work on China and Russia after 2015, reflecting a renewed, rapidly growing interest in studying the relationship between the two countries within IR and AS. This is in line with the characterization of 2014 as a critical year for Sino-Russian relations [33, 46, 78]. Some of the pre-2015 peaks in academic production also reflect important landmarks in the bilateral relations of the two countries. For instance, 1996 marked an increase in academic production and is also the year when the 'Partnership of Strategic Coordination Based on Equality and Benefit and Oriented Towards the 21st Century'<sup>8</sup> was established. Similarly, 1997 was the year of the 'Joint Declaration on a Multipolar World and the Establishment of a New International Order'<sup>9</sup>; 2001 saw the establishment of the Shanghai Cooperation Organization<sup>10</sup> and the Treaty for Good Neighborliness, Friendship and Cooperation.<sup>11</sup> Other important events over the years that also represent an increase in the academic literature include the 2013 inauguration of the Belt and Road Initiative<sup>12</sup>; and 2019 with the 70th anniversary of diplomatic ties<sup>13</sup> between the two countries, as well as by an upgrade of the Sino-Russian relationship to a 'Comprehensive Strategic Partnership of Coordination for a New Era'.<sup>14</sup>

Comparing across decades, the 2010s stand out in terms of the total number of publications with 169 (64%), followed by the 2000s with 51 (19%) and finally the 1990s with 46 publications (17%), as seen in Fig. 3. As of 2010, the publication of scholarly work registered a more than threefold increase in volume (231%). This increase once again reflects the dynamic evolution of the Sino-Russian relationship in that decade, which included several important landmarks, such as the upgrade of

<sup>&</sup>lt;sup>8</sup> Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa\_eng/ziliao\_665539/3602\_665543/3604\_665547/t18028.shtml

<sup>&</sup>lt;sup>9</sup> Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa\_eng/wjdt\_665385/2649\_665393/t15793.shtml and https://digitallibrary. un.org/record/234074

<sup>&</sup>lt;sup>10</sup> About SCOISCO (sectsco.org).

<sup>&</sup>lt;sup>11</sup> Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa\_eng/wjdt\_665385/2649\_665393/t15771.shtml

<sup>&</sup>lt;sup>12</sup> Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa\_eng/topics\_665678/xjpfwzysiesgjtfhshzzfh\_665686/t1076334.shtml

<sup>&</sup>lt;sup>13</sup> Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa\_eng/topics\_665678/xjpcfelsgjjjlt/t1671014.shtml

<sup>&</sup>lt;sup>14</sup> Ministry of Foreign Affairs of the People's Republic of China, https://www.fmprc.gov.cn/mfa\_eng/topics\_665678/xjpcfelsgjjjlt/t1671019.shtml

Table 1  Number of retrieved    publications per research area	Research Areas	Number of Publica- tions
	Political Science	151
	International Relations	143
	Area Studies	135
	Economics	106
	History	77
	Management	42
	Business	39

#### Table 2 Document types per research area

Туре	All Areas	IR and AS	
Article		514	146
Book Reviews	222		101
Proceedings paper	123	17	
Editorial	37		
News Item	29		
Reviews	16	2	

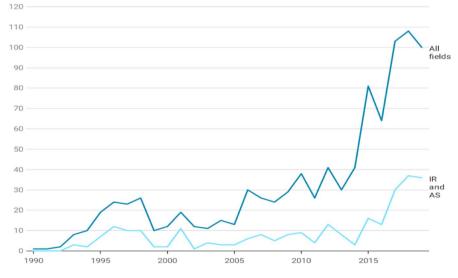


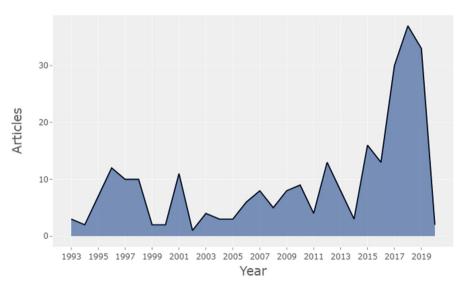
Fig. 1 Publications per year

<b>Table 3</b> Basic characteristics of publications in International Relations and Area Studies	Description	Results	
	Sources	97	
	Authors' keywords	337	
	Average citations per document	3.479	
	Authors	283	
	Authors of single authored documents	178	
	Authors of multi authored documents	105	
	Co-authors' per document	1.25	
	Single author documents	213	

their relationship to the strategic partnership mentioned above, the Syrian war and the positions China and Russia assumed in it, the announcement of the Belt and Road Initiative and its linking with the EAEU, the annexation of Crimea and the US-China trade wars.

#### Most Frequently Used Words Per Decade

Figure 4 identifies the most frequently used words in each decade. Starting with the first two decades, terms such as 'regional', 'confrontation', 'oil' and 'multipolarity'



# Annual Scientific Production

Fig. 2 Annual scientific production in International Relations and Area Studies

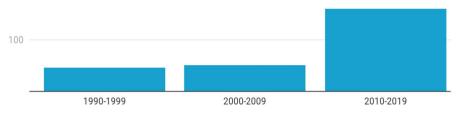


Fig. 3 Publications per decade

were mostly dominant in the 1990 and 2000s, showcasing the cornerstones of their early rapprochement (in the late 1990s to early 2000), in line with the evolution of Sino-Russia relations and especially the adoption of the 1997 'Joint Declaration on a Multipolar World and the Establishment of a New International Order'. However, the pattern of dominant terms had changed completely by 2017, when 'hegemonic order', 'great power', 'strategic interest' and 'engagement' featured among the most prominent.

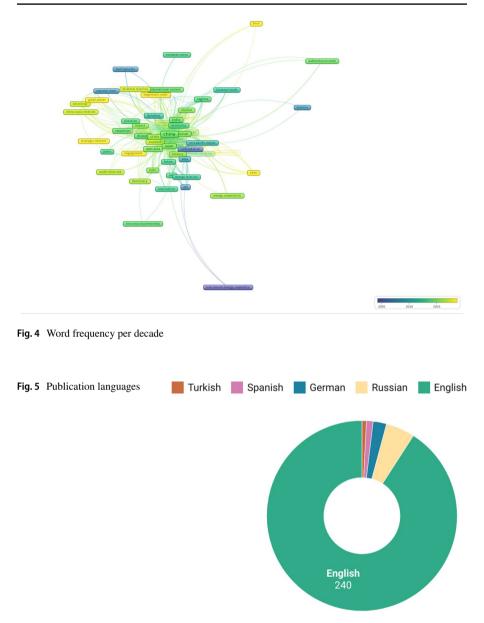
Between 2010 and 2019, those terms became 'economy', 'energy cooperation' and 'BRICS', demonstrating an emphasis on economic issues. In addition, another set of terms including 'bilateral relations', 'great power', 'hegemonic order', 'strategic interest', 'engagement' and 'balancing' rose to the position of most frequently used terms towards the end of the selected time period, demonstrating that the relationship between the two countries is often examined under the (implicit or explicit) theoretical assumption of Realism in IR.

#### **Publication Languages**

Five languages were identified in the IR and AS publications retrieved from the WOS core collection (Fig. 5). English is the most dominant language: 240 out of 266 publications (90%) were published in English. Interestingly, the web core database collection includes 13 (5%) scholarly works on China and Russia in IR and AS written in Russian, 6 (2%) written in German, 3 (1%) in Spanish and 2 (0.007%) in Turkish.

#### **Geographic Distribution**

In addition to the analysis of the language of publication, it is important to explore the distribution of countries in which the scholarly works are published (Fig. 6). This step helps elucidate both the importance of the topic in each country and the influence of the respective country in China and Russia studies. The distribution of publications per country is based on authors' affiliations (the darker the color, the higher the number of publications). In terms of countries with the most publications, the US ranks first with 91 (34%), followed by England with 26 (10%), Russia with 22 (8%), Australia and China with 17 (6%),



Scotland with 12 (4%) and both Canada and Germany with 9 each (3%) (see Fig. 6). This finding indicates that the US has the strongest research position in China and Russia studies.

In terms of geographic distribution, the number of articles coming from Russia and China is remarkably low, especially when compared to the number of US

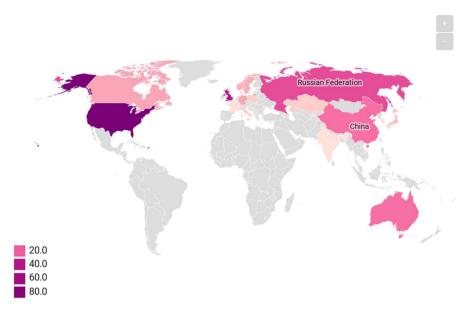


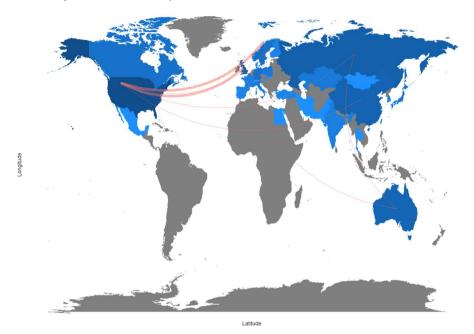
Fig. 6 Geographic distribution of publications

publications.<sup>15</sup> This state of affairs may be related to the importance of this bilateral relationship for the international distribution of power and polarity of the system. This is an issue that, as mentioned above, is especially developed in the neorealist perspective of IR, which has traditionally attracted more interest in the US and, to a lesser extent, individual Western states (such as Australia and Japan).

Another important aspect of the geographic distribution of publications is the network of collaborations among individual authors. Figure 7 presents the country collaboration map, with each node representing a country and the lines connecting the nodes reflecting the corresponding cooperative relationship (the thicker the line, the stronger the relationship).

In this study, the US features as an outstanding performer in terms of international collaborations, with the strongest networks being established between the US and the UK and the US and Norway. No network of scientific collaboration could be identified between China and Russia, although, remarkably, there are (weak) collaboration networks between the US and China and the US and Russia. This absence of collaboration stands in contrast to Sino-Russian research cooperation in more general terms: according to a bibliometric study on China's overall scientific collaboration, Russia ranks 14th on China's list of co-authorship of Chinese corresponding authors and 16th on the list of international co-authorship with foreign authors [79]. Thus, while Russia is not one of China's preferred (top 10) research partners in general (contrary to the US, which holds first place, followed by Japan and the UK), the absence of any IR and AS collaboration between Russia and China in the field of

<sup>&</sup>lt;sup>15</sup> Of course, these findings must be assessed by taking into account the choice of the database used in the present study.



#### Country Collaboration Map

Fig. 7 Country collaboration map

China and Russia studies is both remarkable and surprising. Exploring this interesting finding further, we used the same search criteria ('China and Russia' and 'Sino-Russian') to search the Russian Science Citation Index<sup>16</sup> provided by the WOS and retrieved 50 applicable publications (articles) in the fields of IR and AS<sup>17</sup>; interestingly, none was co-authored by a Chinese-Russian author team.<sup>18</sup>

# Authors

The 266 publications retrieved in the fields of IR and AS leads us to conclude that China and Russia studies as a research topic have been able to attract the interest of a large number of authors, attesting to the dynamic nature of China and Russia

<sup>&</sup>lt;sup>16</sup> The index is created in partnership with Russia's Scientific Electronic Library (eLibrary.ru). The period selected was from the first available year, 2005 to 2020 (keywords in title (Китай и Россия/ Китайско-русский) China and Russia and/or Sino-Russian.

<sup>&</sup>lt;sup>17</sup> There were 72 results before filtering to account for articles published only in academic journals.

<sup>&</sup>lt;sup>18</sup> Surprisingly, 5 publications were authored by Chinese scholars in the Russian language, focusing on various aspects of China and Russia relations (see Xuhua Dnao, 2013; Zhao Jun, 2011; Juan Lifu, 2010; Lu Naxi, et al. 2018). Similar research into the main Chinese databases could also contribute toward unraveling whether there has been a collaboration between Chinese and Russian scholars published in Chinese.

studies. Figure 8 shows the ranking of authors with the most publications on the WoS database.<sup>19</sup> Korolev and Wishnick, two authors who have written extensively on Sino-Russian relations, lead with 6 publications each, followed by Rozman with 5 publications, and then Kerr, Baev and Kaczmarski with 4 (Fig. 8). All the authors listed in the first 10 places have explicitly focused on the relationship between China and Russia.

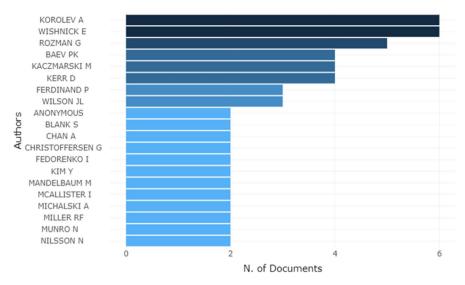
While analyzing these results, it is important to mention the contribution of three female authors on China and Russia studies: Wishnick, with 6 publications; Wilson, with 3 publications; Michailski, Fedorenko and Chan, with 2 publications. This is in addition to other female authors not included in the figure with 1 or more publications, including Stent. Overall, the number of publications authored or co-authored by at least 1 woman is 51 (representing 19% of the total). However, of the 283 authors who appeared in the search criteria, only 41 are female (15%). These results confirm a tendency, identified in previous studies, that points to a gender gap<sup>20</sup> in publishing [80] and under-representation of women in Political Science and International Relations [81, 82].

Figure 9 outlines the period in which the authors began publishing on the topic, with the circle highlighting the years of the respective publications. The size of the circle corresponds to the number of documents published that year, while the shade of the color represents the number of citations the individual documents received. For example, Wishnick wrote on the topic between 1997 and 2018, with her work published in 1997, 1998, 2001, 2004, 2017 and 2018. Her most-cited work, entitled 'In search of the "Other" in Asia: Russia–China relations revisited', was published in 2017 in *Pacific Review*. Wilson has also been highly cited, especially from 2014 onward; her most-cited contributions are [83] in *Europe-Asia Studies and Russia and China respond to Soft Power: Interpretation and Readaptation of a Western Construct published in Politics the same year*. Other authors who have written on the topic less frequently or had written on it in earlier decades include Kim, McCallister, Munro and Michalski. As for the authors with the longest publishing record, these are Wishnick, Rozman and Mandelbaum.

The analysis of the publications by the most productive authors and the tendencies presented in Figs. 8, 9 indicate that most of the authors in the retrieved list have examined the bilateral relationship of the two states and its implications for the international system. Korolev's works are among the most recent, addressing developments in China and Russia relations mainly in the last decade and focusing on the prospects of a Sino-Russian alliance. While Korolev [33, 46] argues that the two states have developed a strong military alignment (having approached the

<sup>&</sup>lt;sup>19</sup> The indication anonymous appears due to missing metadata automatically provided by the journals in the database.

<sup>&</sup>lt;sup>20</sup> Compared to the results gathered from the Russian Science Citation Index, female representation is higher. Out of the 50 articles collected, 21 articles were authored by at least 1 female author, which accounts for a representation of 42%. In more detail, 13 papers were single authored, 3 were authored by female-only author teams and 5 were from mixed-gender author teams. Of a total of 65 authors, 23 were women (35%). See (Semenova N., 2017; Potapenko, MV, & Kholina, VN, 2011).



Most Relevant Authors

Fig. 8 Authors with the most publications

alliance condition) and have also continuously strengthened their cooperation in the economic and diplomatic realm, in terms of the Sino-Russian balancing potential against the US, the two states have employed a two-level strategy of balancing the unipole on the one hand and hedging toward each other at the regional level on the other [53]. In a different theme, investigating Sino-Russian 'underbalancing' against the US and the lack of 'more unequivocal mutual support between China and Russia in times of crisis' [84] apply an IR perspective of Neoclassical Realism to demonstrate the influence of both systemic and unit-level forces (the latter corresponding to imperatives of domestic economies and historical memories) on the reluctance to form an alliance at the unit level. Baev [37], on the contrary, views China and Russia as a 'presidential pseudo-alliance' with significant divergence within it, arguing that the relationship reveals a rather 'one-sided Russian dependency upon indifferent China'.

Wishnick has also investigated the two states' strategic partnership and the various dimensions of their cooperation (military, economic, border) while also accounting for the legacies of mistrust and divergent strategic interests. She argues that a shared interest in countering US unilateralism has fueled the Sino-Russian strategic partnership, and this shared interest has coexisted with a divergence on Asian security, as well as on economic and regional cooperation. None-theless, some of the areas the author describes have been further developed and cannot be captured by her (now outdated) earliest articles [85]. More recently, following a new direction by adopting a constructivist approach applied to Russia's 'meta-project' of integration in Asia, Wishnick [86] argues that Russia has sought to define its identity as an Asian state in conjunction with the Chinese 'Other,' from which Russia nonetheless diverges civilizationally. Wishnick also

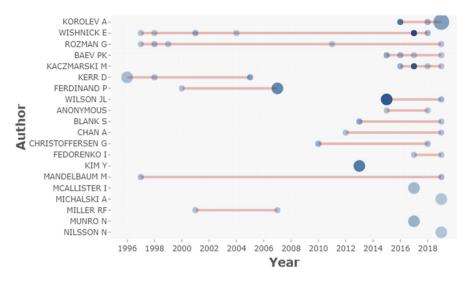


Fig. 9 Authors production over the years

identifies the securitization/desecuritization dynamics between the two states, particularly in their economic cooperation. While Russia fears becoming China's 'resource appendage', this does not impede a growing normative affinity of both states, who act as 'norm makers' on the global stage. In another effort, following theoretical assumptions of the English School, she investigated how China and Russia have managed their relations and their power management in East Asia (2018) [55], arguing that the two states have challenged the US-led order in the region by attempting to create a political basis for a new order.

Both Wishnick and Ferdinand [86-88] agree on the benefits of a constructivist analytical perspective: the former, by emphasizing that a constant focus on balance of power and neorealist assumptions overlooks the normative dimension of the Sino-Russia relationship that can provide valuable insights into great power management, the latter, by highlighting the constructivist capacity to account for the process of constructing a 'warmer' identity that resonates with broader sections of society, particularly regional and local elites, and even the population in general, as opposed to the more traditional, 'realistic' approach largely limited to national political elites. Ferdinand identifies the economic element (mainly energy) as the most divisive one in the Sino-Russian relationship, while acknowledging the significance of the Shanghai Cooperation Organization for their long-term cooperation. The author's second paper in the same year [87] compares the impact of globalization on the political systems and political economy of the two states, arguing that the evolution of their bilateral cooperation is attributed to domestic policymaking (by elites) that has led to a convergence of views in both governments over the best ways to develop their economies and their bilateral relations in general.

The extent and level of cooperation between the two states has been widely examined by the most productive authors. Rozman [89] examined various (political, strategic, economic, domestic and border) aspects of their cooperation, while Kerr [90] focused more closely on aspects of partners' economic and regional cooperation, identifying the lack of a stabilizing economic dimension in their relationship. While both authors posited that the two states need to agree on ways to solidify the partnership, Rozman considered that the two states needed to direct their dynamism from bilateralism to multilateralism, whereas Kerr considered that the two needed to overcome influences stemming from regional pressures to establish advanced economic relations.

Lastly, Wilson [83] adopted an approach located at the intersection of Comparative Politics and International Relations while analyzing China and Russia's discourses on soft power as normative and operational constructs, arguing that their similarities derive from their status as authoritarian regimes and from their Marxist–Leninist heritage, whereas their differences can be attributed to their disparate economic circumstances in addition to historical, social, and political factors.

# Journals

Publications on China and Russia appeared in a variety of journals, which differ in terms of h-index and impact factor (Fig. 10). *Europe-Area Studies* and *International Affairs* are those with the highest number of publications in China and Russia studies, with 27 and 17 publications, respectively. *Slavic Review* has a total of 12, and the *China Journal* and *Eurasian Geography and Economics* come next with 11 and 10. Among these, in terms of the g-index<sup>21</sup> that highlights highly cited papers [91], *International Affairs* displays the highest score (9), alongside *Eurasian Geography and Economics* (6). In regard to the h-index,<sup>22</sup> which corresponds to another metric of productivity and impact [92], *Asian Survey, Communist and Post-Communist Studies*, and *Eurasian Geography and Economics* score higher with (5), whereas *International Affairs* and *Europe-Asia Studies* follow with (4).

#### Titles

We ran a frequency analysis with a cut of 2 occurrences to identify the most frequently used terms in the titles. As such, the terms 'evolution', 'Asia', 'Russian relations', 'strategic partnership' and 'alliance' are the most frequent. In addition, a network analysis allowed us to identify 21 clusters (Fig. 11). Two important findings are associated with the clusters created on the basis of the terms' 'alliance'

<sup>&</sup>lt;sup>21</sup> The g-index highlights papers that are highly cited.

 $<sup>^{\</sup>rm 22}\,$  The h-index measures both the productivity and citation impact of a publication.

Source	h_index	q_index	m_index	тс	NP	PY_start
EUROPE-ASIA STUDIES	4	6	0.16	42	27	1996
INTERNATIONAL AFFAIRS	4	9	0.153846153846154	81	17	1995
SLAVIC REVIEW	0	0	0	0	12	1996
CHINA JOURNAL	0	0	0	0	11	1996
EURASIAN GEOGRAPHY AND ECONOMICS	5	9	0.333333333333333333	99	10	2006
CHINA QUARTERLY	0	0	0	0	8	1995
JOURNAL OF ASIAN STUDIES	0	0	0	0	8	1997
SURVIVAL	1	3	0. 08333333333333333333	12	8	2009
ASIAN SURVEY	5	7	0.178571428571429	57	7	1993
INTERNATIONALE POLITIK	1	2	0. 0384615384615385	4	7	1995
ASIAN PERSPECTIVE	2	4	0.166666666666667	20	6	2009
COMMUNIST AND POST-COMMUNIST STUDIES	5	5	0.192307692307692	76	5	1995
FOREIGN AFFAIRS	2	4	0. 0769230769230769	19	5	1995
PACIFIC AFFAIRS	0	0	0	0	5	2011
KOREAN JOURNAL OF DEFENSE ANALYSIS	1	1	0. 0769230769230769	3	4	2008
PACIFIC REVIEW	2	4	0.08	24	4	1996
POST-SOVIET AFFAIRS	3	4	0.130434782608696	25	4	1998
VESTNIK MEZHDUNARODNYKH ORGANIZATSII- INTERNATIONAL ORGANISATIONS RESEARCH JOURNAL	1	1	0.16666666666666667	1	4	2015
70 LYET SOVRYEMYENNOMOO KITAYSKOMOO GOSOODARSTVOO	0	0	0	0	3	2019
FOREIGN POLICY ANALYSIS	1	1	0.5	3	3	2019

Fig. 10 Journals with the highest number of articles on China and Russia

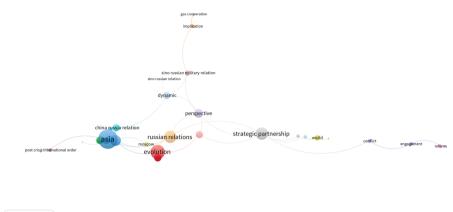
and 'strategic partnership'. Both terms are linked, and other terms are used alongside them: 'power', 'politics', 'perspective', 'Russian relations', 'evolution', 'world', 'China', 'policy', 'engagement' and 'conflict'. This network reveals that China and Russia studies often focus on the Sino-Russian partnership and what it entails in terms of conflict and engagement and whether it will evolve into an alliance.

# Abstracts

We collected twenty of the most frequently used words in abstracts from the publications accompanied by one (Table 4). The results indicate that 'China' (796) and 'Russia' (725) are the most frequently used terms, followed by the terms 'relations' (458), 'international' (436), 'area' (288), 'USA' (260) and 'Asia' (243). Thus, China and Russia studies have been evolving under a close relationship with a focus on, firstly, the US, and secondly, Asia. Furthermore, studies focused on China and Russia tend to emphasize economic (154), political (152), energy (120) and foreign policy (110) aspects.

# Keywords

Out of 266 IR and AS publications, 118 presented keywords, which we used to perform the keyword (content) analysis. The number of keywords per publication was



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Fig. 11 Relation map of the most frequently used words in titles

between 3 and 6. The analysis was set with a threshold of at least 4 co-occurrences and displayed 41 keywords, of which 10 of the most commonly used are reproduced in Fig. 12: 'politics, 'state', 'identity', 'alliances', 'security', 'power', 'democracy', 'foreign policy', 'war' and 'reforms'.

Table 4  Words most frequently used in abstracts	Word	Frequency
	China	796
	Russia	725
	relations	458
	international	436
	area	288
	USA	260
	asia	243
	economic	154
	political	152
	cooperation	122
	policy	122
	energy	120
	foreign policy	110
	strategic partnership	99
	power	95
	regional	79
	world	79
	security	75
	eurasian	71
	affairs	69

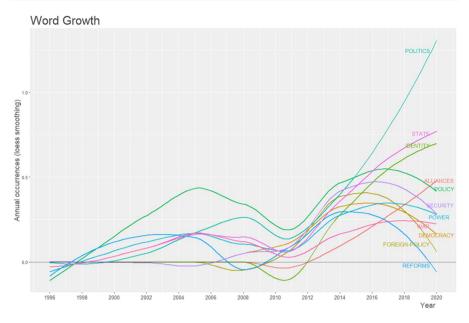


Fig. 12 Growth of most-used keywords

The use of the term 'politics' illustrates the rise of the political dimension in China and Russia studies (after 2010), while the increase in the use of 'alliances', 'power', 'security' and 'foreign policy' points to the importance of analyzing the strategic options and decisions in the published studies. The terms 'democracy' and 'reforms' reflect the growing interest in analyzing particular policies and regime-oriented comparisons.

Figure 12 also traces word growth over the years; since the mid-1990s, the terms 'policy', 'reforms', 'war' and 'power' were used most often and in rather similar proportions (corresponding to quite low indicators in the 1990s and a similar pattern of growth until 2003). The term 'security' appeared after 2001, and the term 'foreign policy' in 2005, with 'alliances' attracting more attention after 2008. 2011 represents a watershed moment when dynamics begin changing: 'politics' receives a significant boost in its use as a keyword, followed by 'state', 'identity' and 'alliances'. Since 2015, the pattern of evolution of individual keywords shows remarkable divergence, with 'politics' assuming a clear leading position.<sup>23</sup> The terms 'democracy', 'foreign policy', 'reforms', 'security' and 'policy' display a downward trend while 'war', 'power' and 'security' appear steady.

 $<sup>^{23}</sup>$  'Identity' and 'alliances' as key concepts of two different schools of thought indicate a certain competition between the constructivist and realist IR paradigms in the current state of the art in China and Russia studies.

Table 5  Frequency of research    methods	Methods	Frequency
	Content Analysis	2
	Interviews	6
	Discourse analysis	12
	Narrative analysis	3
	Statistics	3
	Correlation	2
	Causality	3
	Case study	19
	Comparative analysis	28
	Survey	5
	Field study	2

#### **Methods of Analysis**

The second aspect of this analysis is focused on locating the main methodological tools used in the retrieved publications, as described in the abstracts. As shown in Table 5, comparative analysis is the most frequently used methodological tool, followed by case study and discourse analysis. In addition, interviews, surveys and field studies have been used to collect data. By analyzing the most frequently employed methods, it can be concluded that China and Russia studies tend to rely on qualitatively-driven approaches, while quantitative methods, such as correlation and causality analysis, are rare.

#### Density

The density map for this study was created by evaluating the full record of the publications examined, including titles, abstracts and keywords. The frequency cut was set to 10 in full counting.

Figure 13 shows density by indicating the relative importance of each term in various areas of the color map. The color of an area reflects the frequency of terms occurring in our data set. The highest density is portrayed in red, followed by yellow, green and blue. The terms that appear in the neighboring area represent the linkage among terms (the closer the terms, the stronger the link). Figure 13 demonstrates an interesting constellation centered mainly around 'China/Russian' with some terms that stand out, including 'world', 'cooperation partner', 'foreign policy', 'West' and 'power'. The results lead us to conclude that the nature of the bilateral cooperation, its various aspects, exact definition and prospects occupy a central place in China and Russia studies in IR and AS (contrary to other topics, such as their cooperation in the Shanghai Cooperation Organization or the Eurasian Economic Union, or their cooperation with other

cirection	dynamic	eurasia soviet union india	russian federation	
chection	challen	ge		
respect evolution behavior	globalization order	partnership territory Kegy far east region	seft power trade	
dispute	crisis war policy intervention we conflict view	γ cooperation partner est central asia		
	support alliance	role e	asia pacific region	
		europe japan	shanghai co eurasian economic uni	operation organisati
	east asia cor	national intere	confrontation	
engagement		history	eccnomic cooperation	silkroad economic belt
		asia		
	nato			
		usa		

Fig. 13 Density of the most frequently used terms

BRIC countries, like India). A geographical focus on Central Asia can also be noted.

# **Discussion and Conclusions**

This study has aimed to provide a bibliometric analysis of publications focusing on China and Russia, paying special attention to the fields of IR and AS. Although there has been a considerable increase in research in China and Russia studies, bibliometric analysis has been lacking. By employing a set of research questions, we have aimed to provide an alternative perspective on IR and AS literature by accounting for the research trends at the macro, meso and micro levels of the studies under analysis. It is hoped that these findings will provide researchers interested in China and Russia studies with a better starting point by establishing the most salient themes, contributing authors and journals that have published on the topic, all of which may be important for formulating new research questions, choosing a research perspective and methods. They may also help inform journals' decision whether to publish prospective contributions.

The results of this study indicate an increase, particularly from 2014 onwards, in publications and citations in China and Russia studies, reflecting scholars' increased attention toward this area in the post-Cold War era. Among all identified themes, Sino-Russian bilateral relations and the debate over their many implications occupy a special place. The study has also established that journal articles are the prevailing

form of publication, and that the US and the UK are the most productive countries. In terms of collaborating countries, the US and the UK also have the strongest ties while, interestingly, there is no network between China and Russia in IR and AS. As for authorship, Korolev and Wishnick have published the most, while Wishnick and Rozman demonstrate the longest publishing record, dating back to 1996.

*Europe Area Studies, International Affairs, China Journal* and *Slavic Review* are the journals that have published the most on China and Russia studies. This indicates that both IR and AS journals have been actively involved in China and Russia Studies, regardless of differences in their aim and scope. Moreover, the terms 'Asia', 'strategic partnership', 'evolution', 'Russian' and 'relations' are the most frequently used in the titles of articles or book chapters, once again pointing to the fact that the Sino-Russian bilateral relationship is the most examined topic. The use of 'strategic partnership', 'evolution' and, to a lesser degree, 'alliance', especially indicate that there is a particular focus on what exactly this bilateral relation entails and its future prospects. Furthermore, as our analysis of the most frequently used abstract terms demonstrates, there is a strong presence of the term or factor 'US' in China and Russia studies. Also, once again, Sino-Russian 'relations' and 'cooperation' display high frequency while the 'political', 'economic' and 'energy' domains refer to the main areas that the analyses are centered on.

Keyword analysis has also allowed us to identify both the most frequent keywords and their growth over the years. The term 'politics' is the one most frequently used and has grown constantly since 2010. 'Alliance' also shows a growing tendency that reflects the importance of Rrealist IR considerations on the nature and potential of this relationship, while also pointing to the intriguing puzzle as to why these two countries have not formed a fully-fledged alliance in the post-Cold War era. The fact that the term grows more intensely after 2014 shows that the year represents a turning point in the Sino-Russian relationship and has gathered a wide amount of academic research.

The final density test was performed to investigate term coupling, both in distance and intensity, with the most intense neighborhood being composed of terms including 'cooperation', 'power', 'alliance', 'partner', 'threat', 'West' and 'world'.

In sum, and responding to our research questions, it can be established that the 2010–2019 period saw heightened interest in China and Russia studies, an interest that has grown continuously and led to a twofold increase in publications since 2014. The main focus of these studies has been on the cooperation between the two actors of this political dyad, including examinations as to whether 'alliance' and 'strategic partnership' are adequate designations for this relationship, and regarding the US as an important factor influencing their bilateral cooperation.

The present contribution lays the groundwork for future bibliometric studies, which could expand both the scope of the present analysis and consider diversifying data sources by including other databases, such as Scopus and Google Scholar. In addition, our analysis—especially of methods of analysis and data collection, most frequently used keywords (reflecting main research themes) and most productive authors, tendencies in (annual) research production, and country collaboration networks—allows for the identification of avenues for future research in China and Russia studies. First, there is a predominance of qualitative methodological perspectives, an imbalance that future studies

could correct by systematically analyzing existing quantitative data. Second, growing tendencies in the appearance of certain keywords such as 'identity' and 'alliances' in recent years reflect the role of constructivist and realist IR theories in China and Russia studies. If these tendencies are to continue, the question arises as to the (desirability of) dialogue between the two approaches and theoretical synthesis (including some problematic issues like the material-ideational nexus) and the analytical eclecticism in China and Russia studies, a question that has already been raised by IR scholars [93, 94], but which is now emerging prominently, and with new implications, within China and Russia studies. At the same time, critical perspectives (such as feminist ones) on China and Russia studies have been absent, resulting in a possible avenue for future research. Third, China and Russia studies could become more interdisciplinary, reflecting the multidimensional nature of the Sino-Russian relationship. Fourth, future studies could also investigate newly emerging aspects in the bilateral cooperation of the two states, such as joint initiatives in security and technology domains (particularly in emerging technologies, including artificial intelligence), cultural representations of each country in the domestic politics of the other and 'digital cooperation' as presented in social media, which can inform not only diplomatic interactions but also foreign policy.

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#### Declarations

Conflict of interest No conflict of interest was declared by the authors.

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