中国科学技术大学
University of Science and Technology of China

Innovative Scientific Research with Web of Science

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Library of USTC

CONTENTS

Overview of Web of Science

Part

1

Why use a professional database?

“Google can bring you back 100,000 answers, a librarian can bring you back the right one.”

——Neil Gaiman

The basic workflow of scientific research

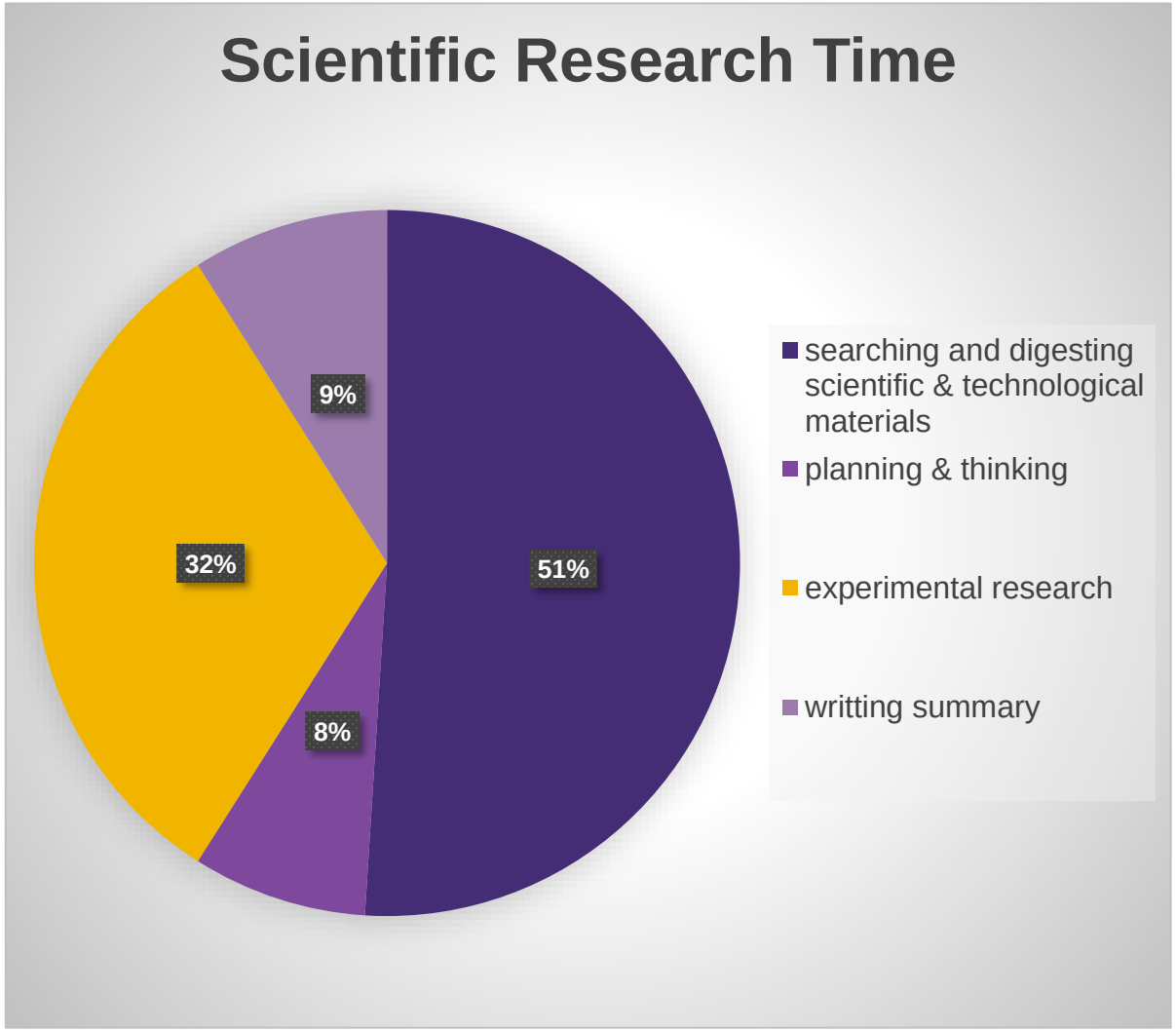
- Retrieve related research
- Analyze existing research results
- Problems found
- Propose a hypothesis

- Develop experiment plans
- Define experiment procedures
- Carry out experiments
- Data summary

- Data visualization
- Data verification
- Experiment adjustment
- Hypothesis verification

- Write research papers
- Publish papers

Information needs in scientific research



- According to statistics from the National Science Foundation (NSF), the time a researcher spends on **searching and digesting scientific and technological materials** accounts for **51%** of the total scientific research time, **planning & thinking** accounts for 8%, **experimental research** accounts for 32%, and writting summary accounts for 9%.
- It can be seen from the above statistics that the time spent by scientific researchers on scientific publications is **60%** of the total scientific research time.

Classification of scientific document

Finding relevant documents is an important part of scientific research. In addition to using scientific search engines, professional databases are better choices. The **abstract database** is especially recommended.

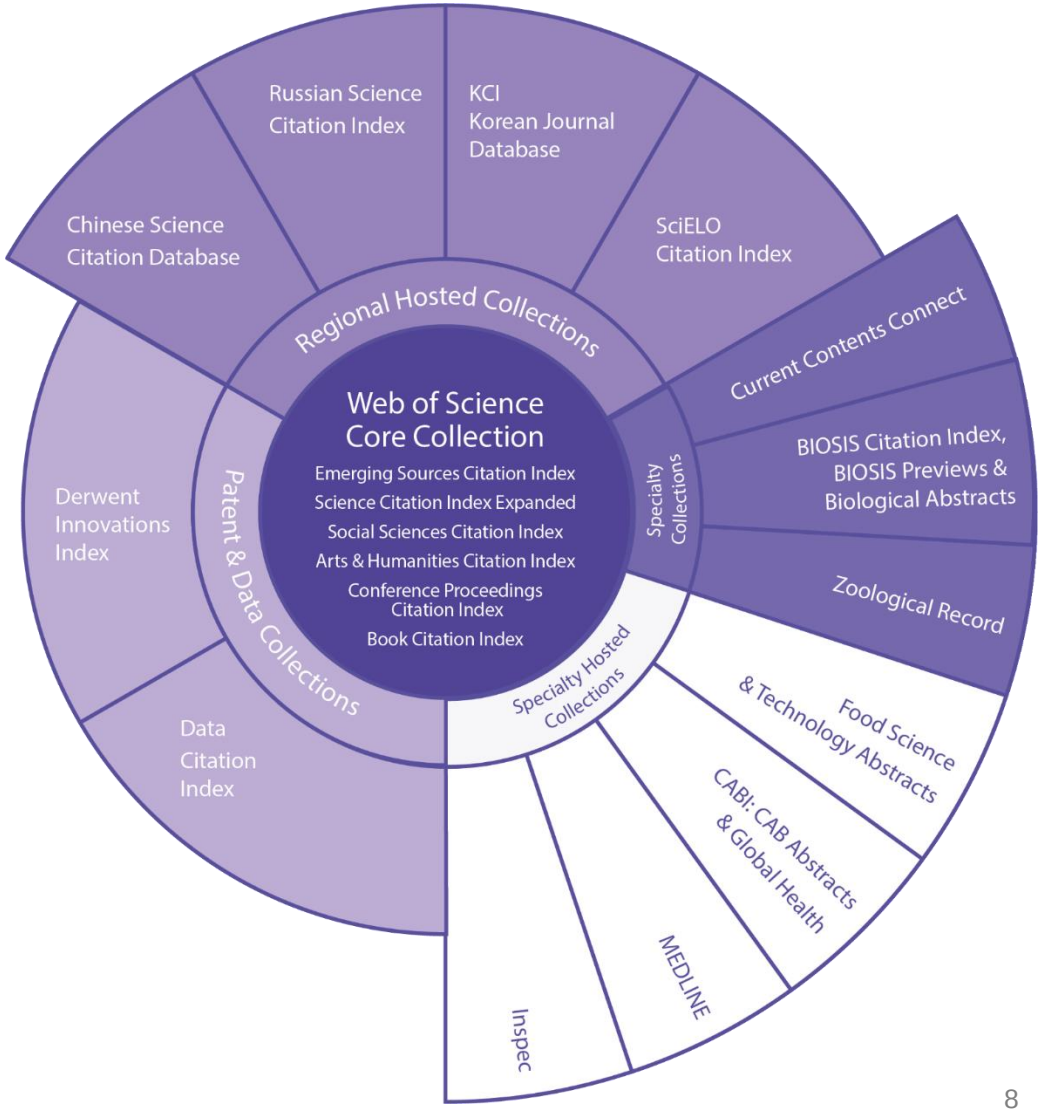
According to different levels of processing, the document types are divided into:

- **zero documents** (gray documents);
- **primary documents** (original documents), the main objects of retrieval and utilization;
- **secondary documents**, the major tools for retrieval;
- **tertiary documents**, which use secondary documents on the basis of the selection of a document, the regeneration information source generated by analysis, generalization, comprehensive research and evaluation.

What is Web of Science?

Web of Science is a platform consisting of several document search databases designed for supporting scientific researches.

There are databases with a subject focus like Medline, BIOSIS Citation Index; databases with a specific document type focus like Derwent Innovations Index (patents) ;and databases highlighting content from regions around the world.



Web of Science Core Collection

Web of Science Core Collection is the premier resource and the world's original citation index for scientific researches.

As a curated collection, Web of Science Core Collection contains over 21,100 peer-reviewed, high-quality journals published worldwide (including Open Access journals) over 250+ fields, including natural and social sciences, and arts & humanities disciplines. Conference proceedings and book data are also available.

- 1.5 billion cited references dating back to 1900
- 74.8 million total records
- 10.1 million total Open Access records
- 21,100+ unique global journals
- 254 disciplines

Explore Web of Science Core Collection indices

Science Citation Index Expanded (SCIE)

- Search across over 9,200 of the world's most impactful journals across 178 scientific fields. More than 53 million records and 1.2 billion cited references date back from 1900 to present.

Social Sciences Citation Index (SSCI)

- Search across over 3,400 of the world's most impactful journals across 58 social sciences fields. More than 9 million records and 122 million cited references date back from 1900 to present.

Arts & Humanities Citation Index (AHCI)

- Search across over 1,800 of the world's most impactful journals across 28 arts & humanities fields. More than 4.9 million records and 33 million cited references date back from 1975 to present.

Explore Web of Science Core Collection indices

Emerging Sources Citation Index (ESCI)

- Search across over 7,800 of the world's highest-quality journals across 254 disciplines. More than 3 million records and 74 million cited references date back from 2005 to present.

Conference Proceedings Citation Index (CPCI)

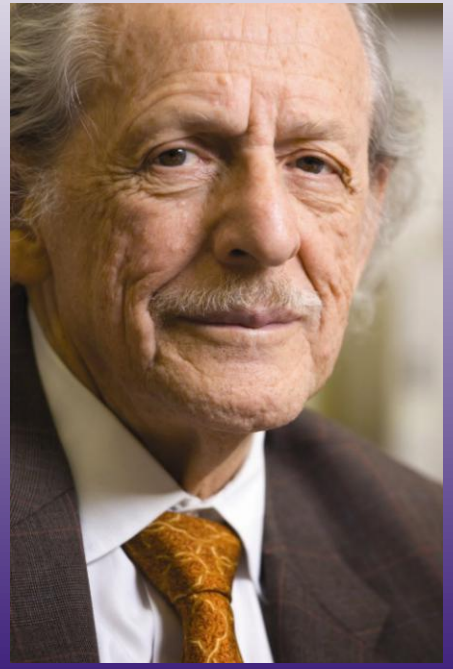
- This multidisciplinary index is the fastest way to gain access to cutting edge, impactful researches derived from over 205,000 conference proceedings. More than 70 million cited references data back from 1990 to present.

Book Citation Index (BKCI)

Current Chemical Reactions and Index Chemicus

What is a citation index?

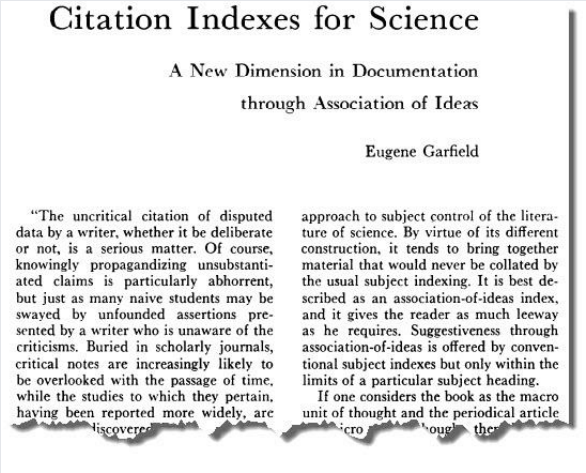
Web of Science Core Collection: The Value of True Citation Indexing on the Path to Discovery



Dr. Eugene Garfield

Founder & Chairman Emeritus
ISI, Thomson Scientific

Dr. Garfield published a paper in Science in 1955 , proposed to use **citation index** as a new document retrieval & classification tool: using **a document** as a search field to track the development process of an idea and the cross-penetration relationship between disciplines.



Citation Indexes for Science

A New Dimension in Documentation through Association of Ideas

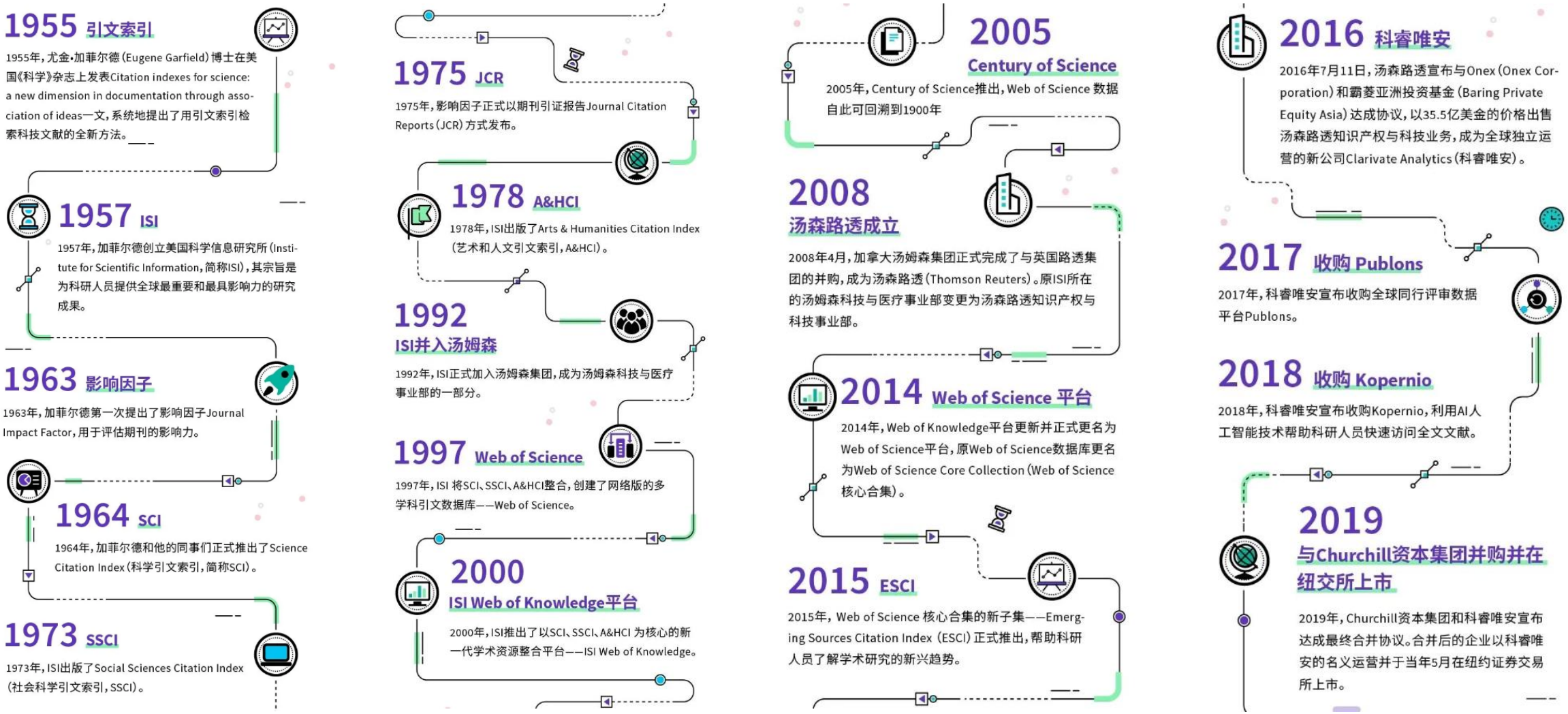
Eugene Garfield

"The uncritical citation of disputed data by a writer, whether it be deliberate or not, is a serious matter. Of course, knowingly propagandizing unsubstantiated claims is particularly abhorrent, but just as many naive students may be swayed by unfounded assertions presented by a writer who is unaware of the criticisms. Buried in scholarly journals, critical notes are increasingly likely to be overlooked with the passage of time, while the studies to which they pertain, having been reported more widely, are

approach to subject control of the literature of science. By virtue of its different construction, it tends to bring together material that would never be collated by the usual subject indexing. It is best described as an association-of-ideas index, and it gives the reader as much leeway as he requires. Suggestiveness through association-of-ideas is offered by conventional subject indexes but only within the limits of a particular subject heading.

If one considers the book as the macro unit of thought and the periodical article

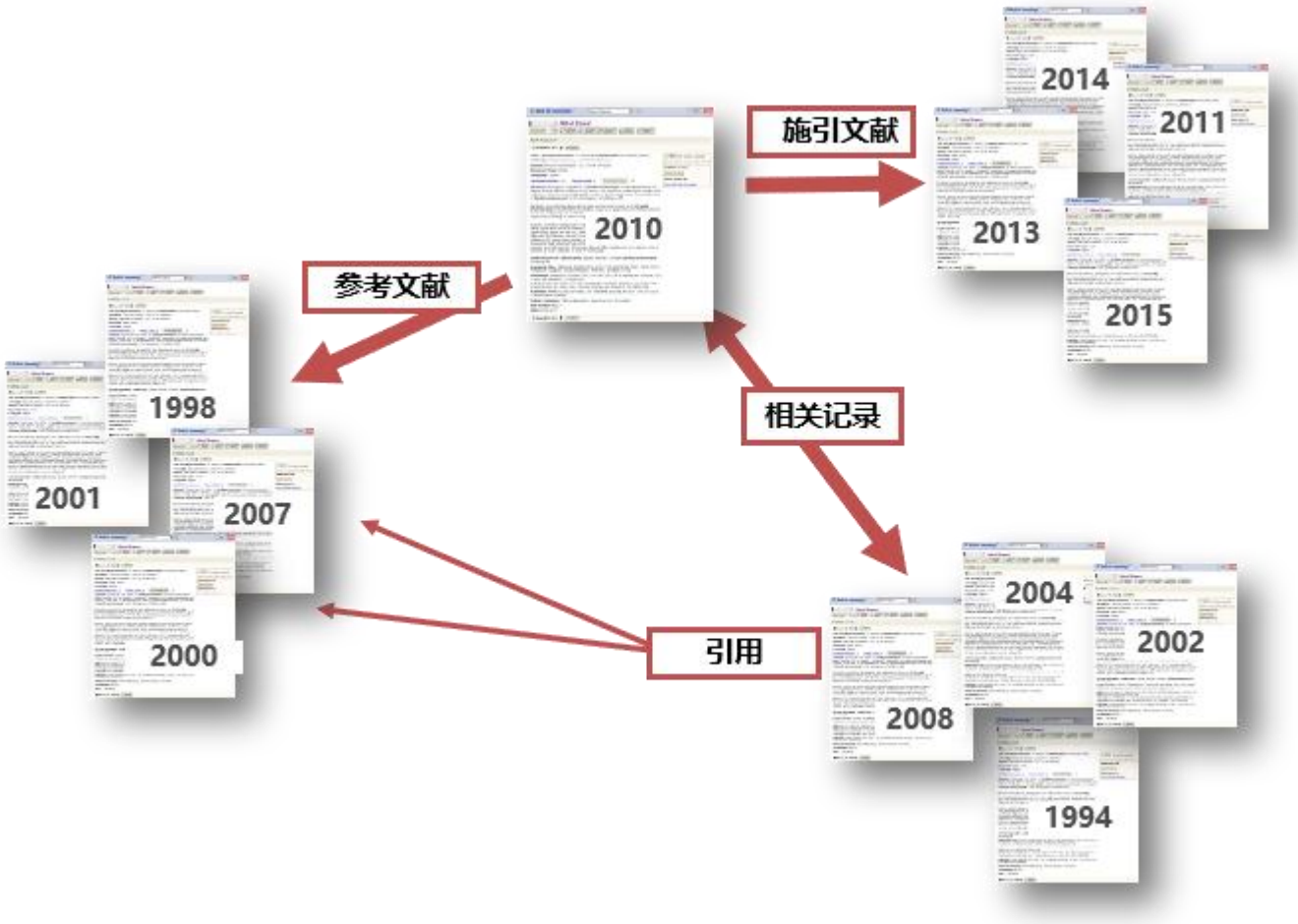
A brief history of Science Citation Index (SCI)



The meaning of citation index

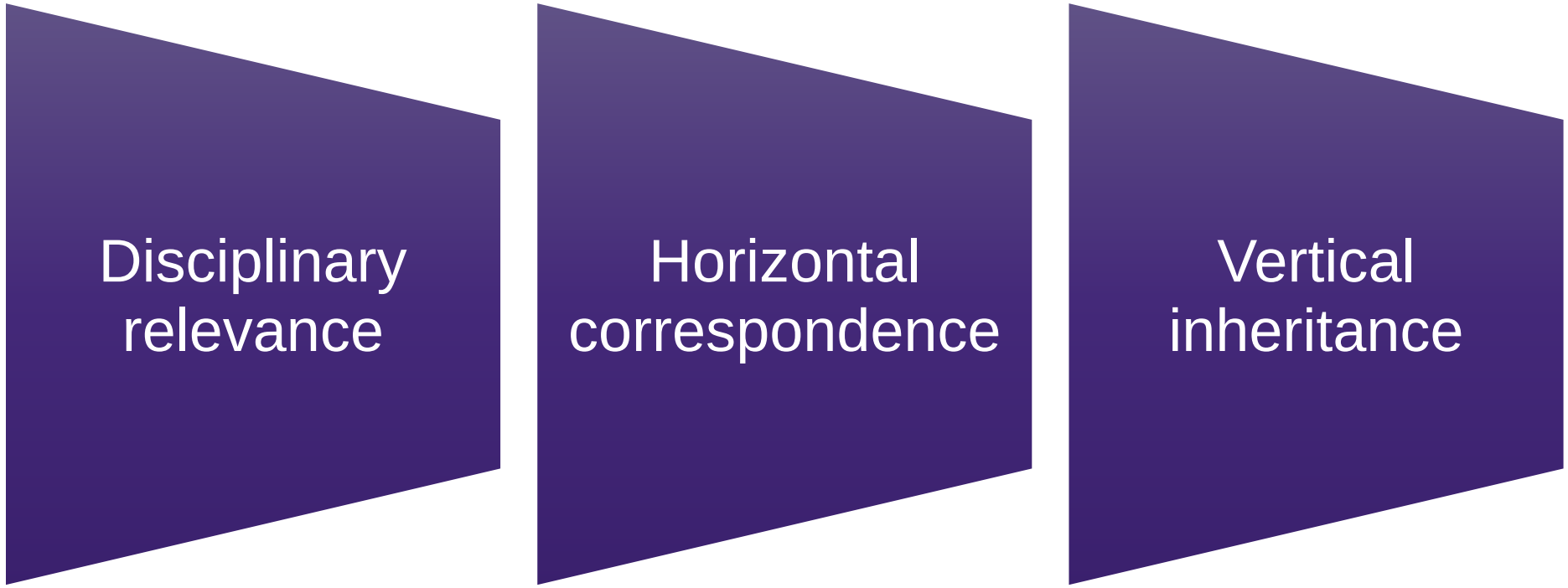
- The professional concepts and terminology in the research are constantly evolving, and the language of the research is also constantly changing. The continuous evolution of keywords may lead to miss of important documents with high impact.

- through citation index, we can use the references, citing documents, and related records.we can start from a high-quality document, proceed along the path of scientific research history



The meaning of citation index

The citation index breaks the traditional classification of disciplines. It can reveal the relationship of inheritance and development within a discipline, as well as reflect the merging among disciplines.



The importance of WOS

World University Rankings

Times Higher Education (THE)

- Paper citation rate (influence), with a weight of 32.5%

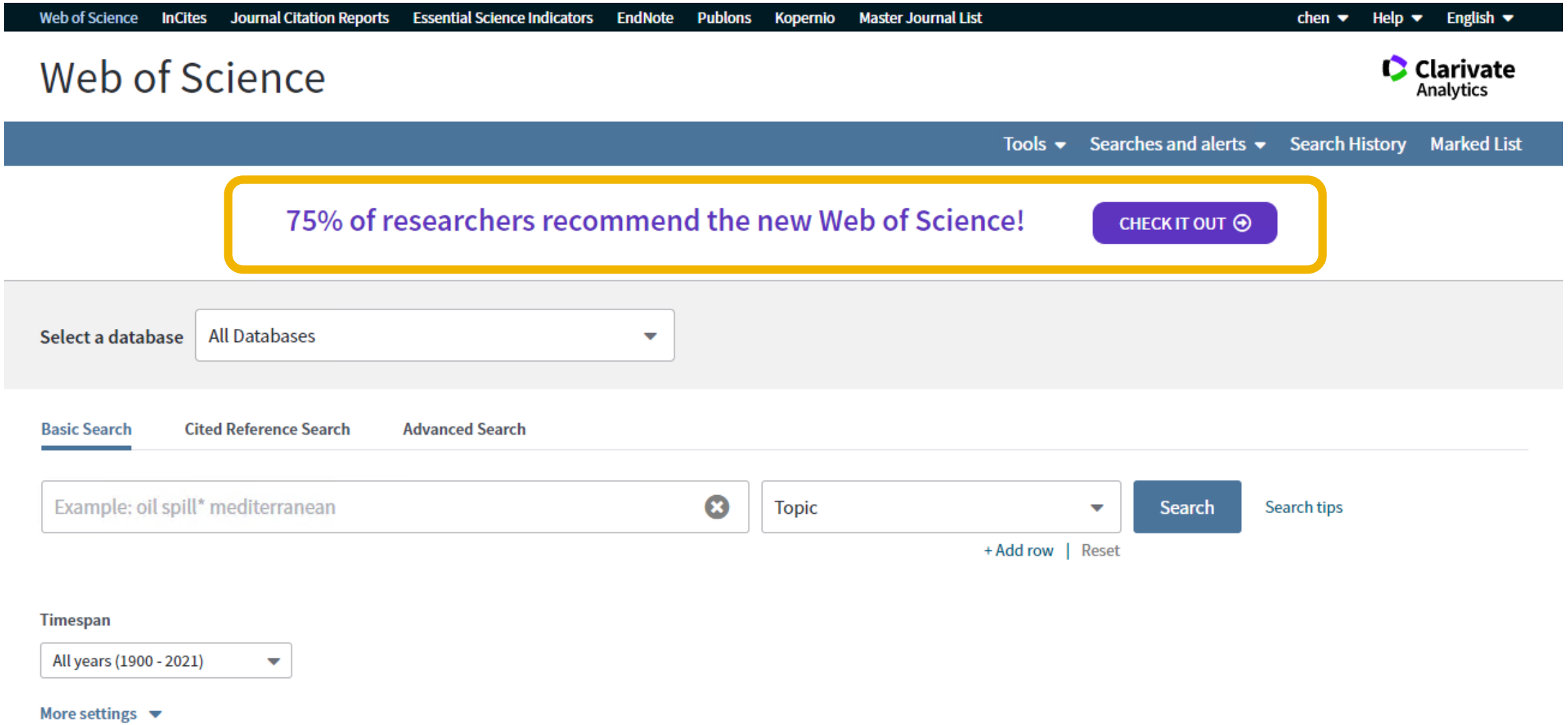
QS World University Rankings

- Citation rate of Unit faculty, with a weight of 20%

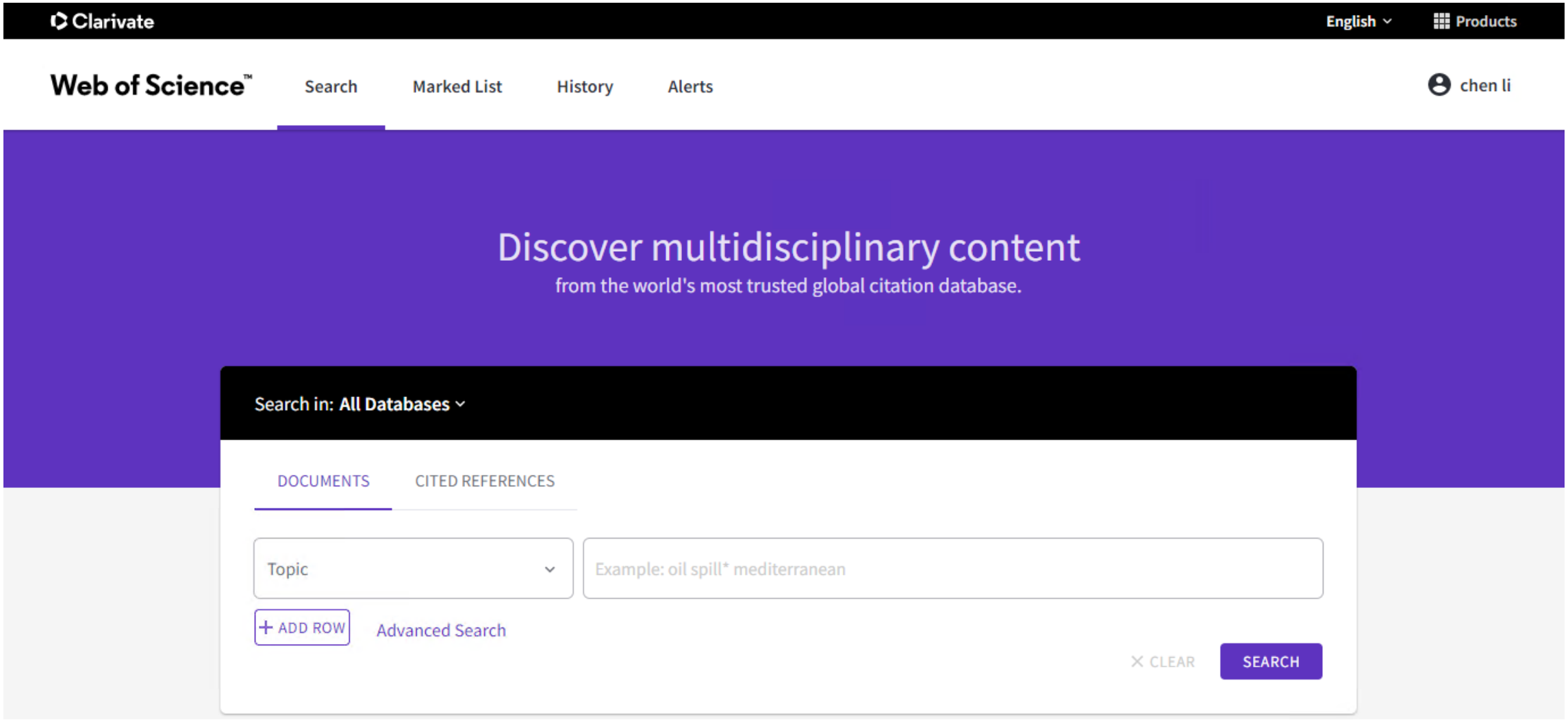
ARWU (Shanghai ranking)

- The number of scientists with the highest citations in each academic field, with a weight of 20%
- The total number of papers included in SCI & SSCI, with a weight of 20%

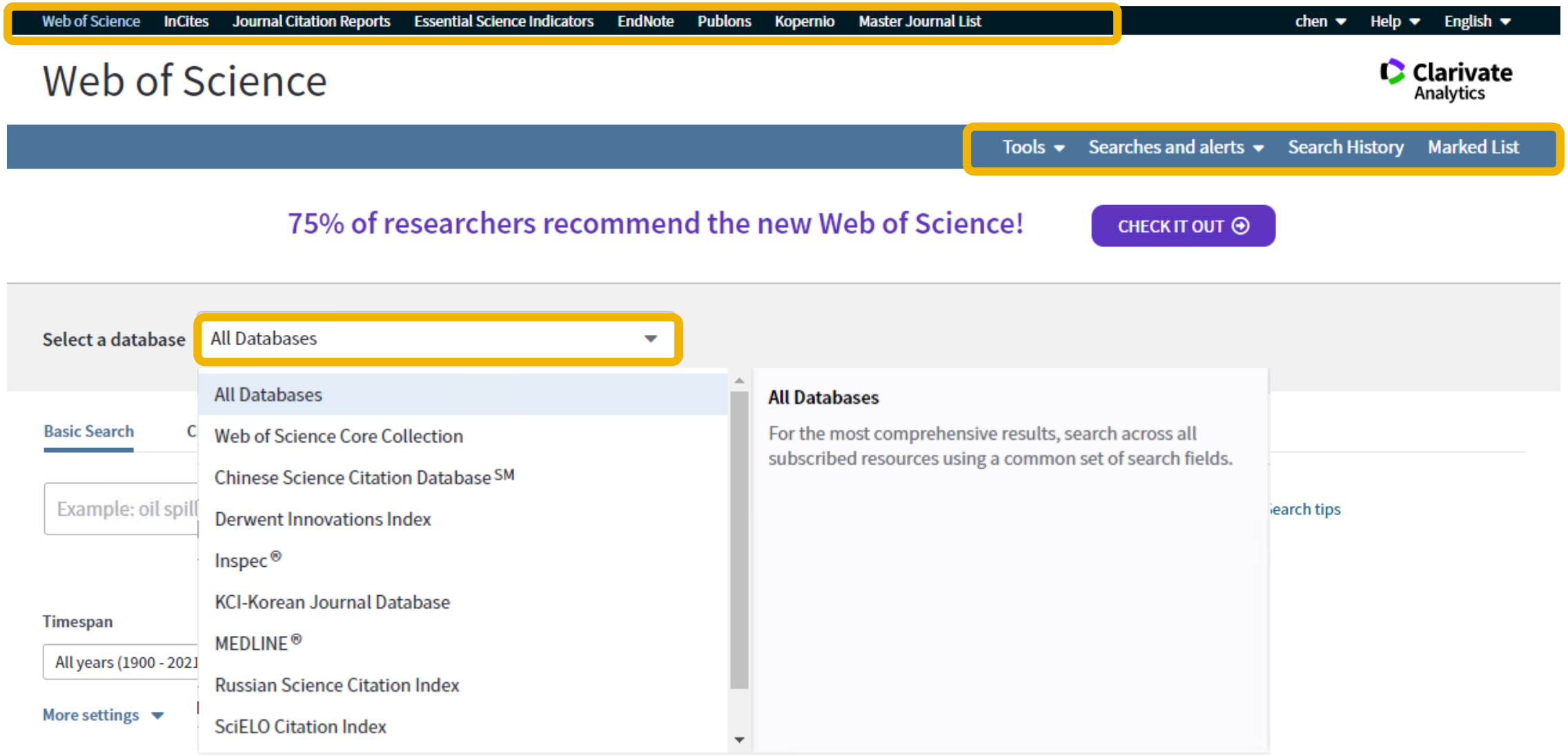
Get to know the Web of Science platform



the new Web of Science



Get to know the Web of Science platform



Get to know the Web of Science platform

All Databases

For the most comprehensive results, search across all subscribed resources using a common set of search fields.

Web of Science Core Collection (1900-present)

Search the world's leading scholarly journals, books, and proceedings in the sciences, social sciences, and arts and humanities and navigate the full citation network.
[less]

All cited references for all publications are fully indexed and searchable.
Search across all authors and all author affiliations.
Track citation activity with Citation Alerts.
See citation activity and trends graphically with Citation Report.
Use Analyze Results to identify trends and publication patterns.

Your edition(s):

Science Citation Index Expanded (1900-present)
Social Sciences Citation Index (2000-present)
Arts & Humanities Citation Index (2017-present)
Conference Proceedings Citation Index- Science (1990-present)
Emerging Sources Citation Index (2015-present)
Current Chemical Reactions (1985-present)
(Includes Institut National de la Propriete Industrielle structure data back to 1840)
Index Chemicus (1993-present)

Chinese Science Citation Database SM (1989-present)

Provides bibliographic information and citations to articles in the core science and engineering journals published in the People's Republic of China.
[more]

Derwent Innovations Index (1963-present)

Combines unique value-added patent information indexed from over 50 patent issuing authorities in the *Derwent World Patent Index* (1963-present) with patent citations indexed from the *Derwent Patents Citation Index* (1973-present).
[more]

Inspec ® (1969-present)

A comprehensive index to the global journal and proceedings literature in physics, electrical/electronic engineering, computing, control engineering, mechanical engineering, production and manufacturing engineering, and information technology.
[more]

KCI-Korean Journal Database (1980-present)

Provides access to articles from multidisciplinary journals covered in KCI. KCI is managed by the National Research Foundation of Korea and contains bibliographic information for scholarly literature published in Korea.
[more]

MEDLINE ® (1950-present)

The U.S. National Library of Medicine® (NLM®) premier life sciences database.
[more]

Russian Science Citation Index (2005-present)

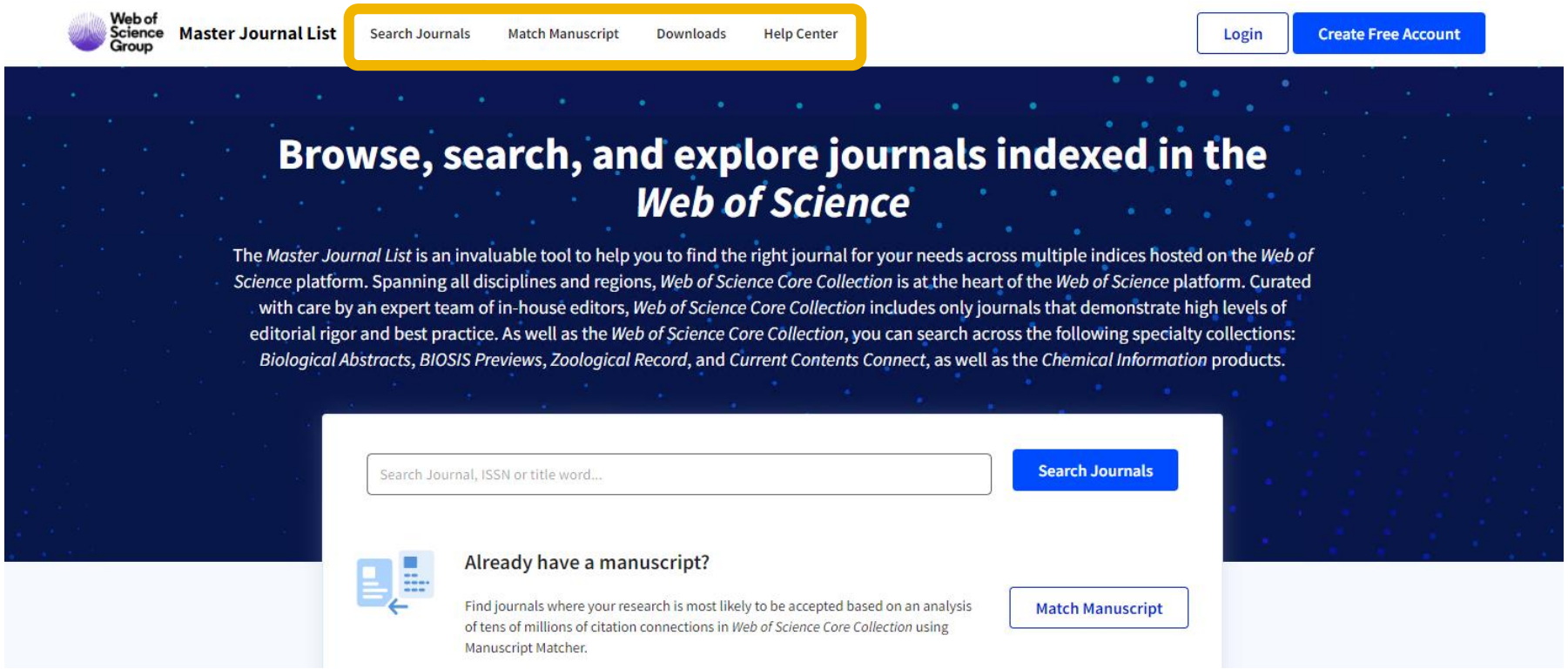
Search across scholarly articles from researchers publishing in the core Russian science, technology, medical, and education journals. Leading publications have been carefully selected and provided by the Scientific Electronic Library (eLIBRARY.RU), Russia's largest research information provider.
[more]

SciELO Citation Index (2002-present)

Provides scholarly literature in sciences, social sciences, and arts and humanities published in leading open access journals from Latin America, Portugal, Spain, and South Africa.
[more]

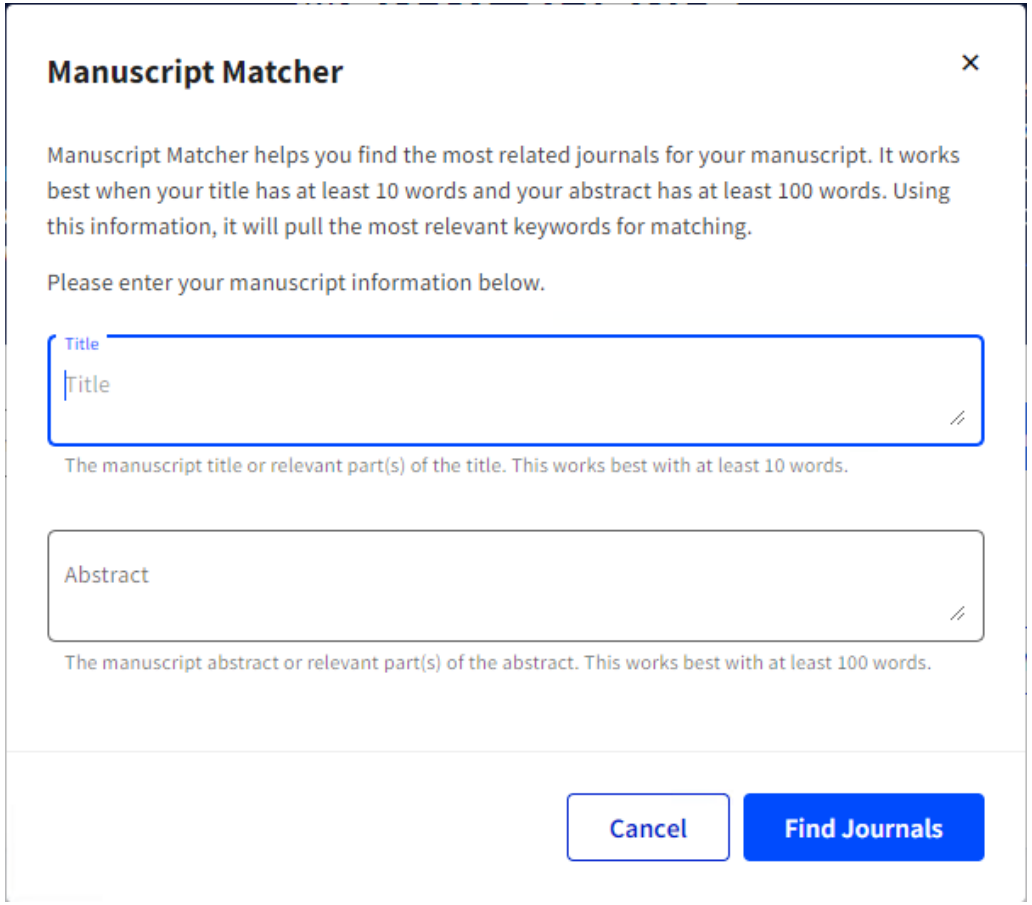
Master Journal List

- The Master Journal List is an invaluable tool to find the right journal for your needs across multiple indices hosted on the Web of Science platform.
- The list of journals is updated on an monthly basis at least , but some journal profile data is updated on a daily or weekly basis.

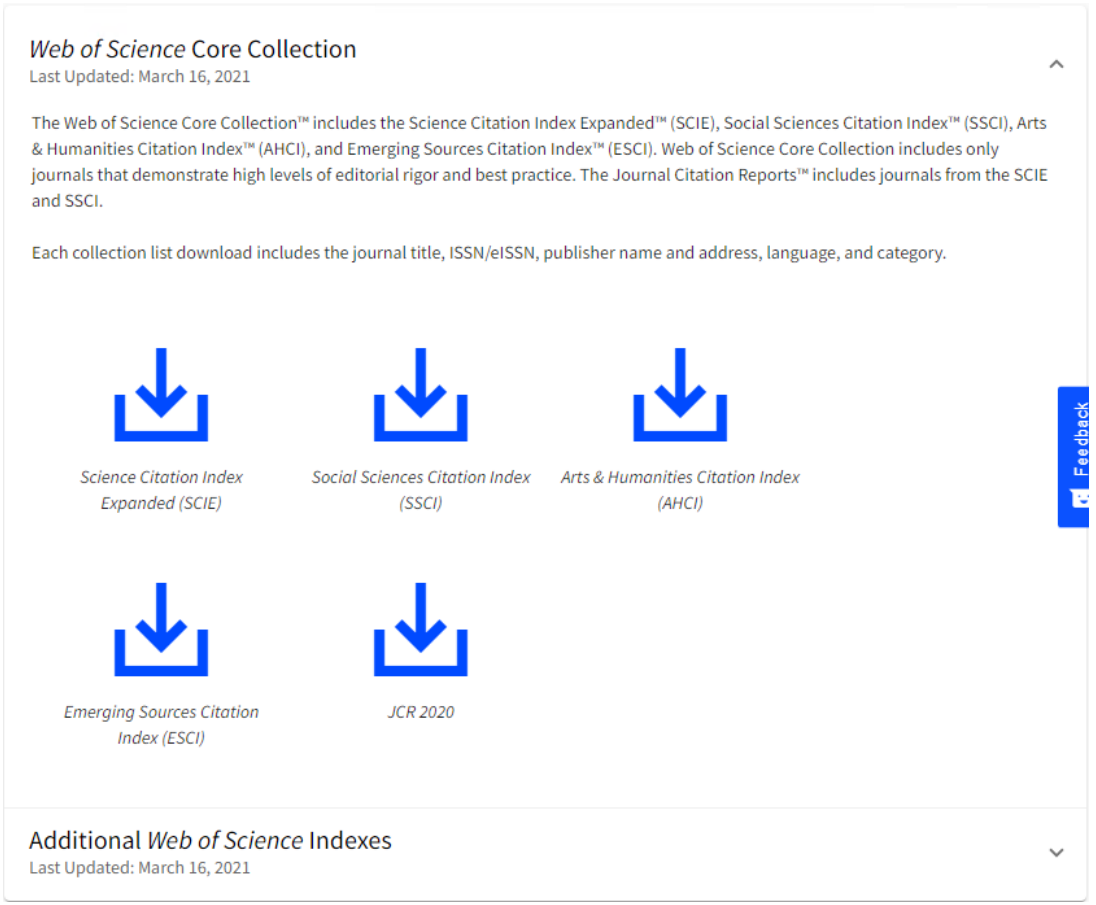


Master Journal List

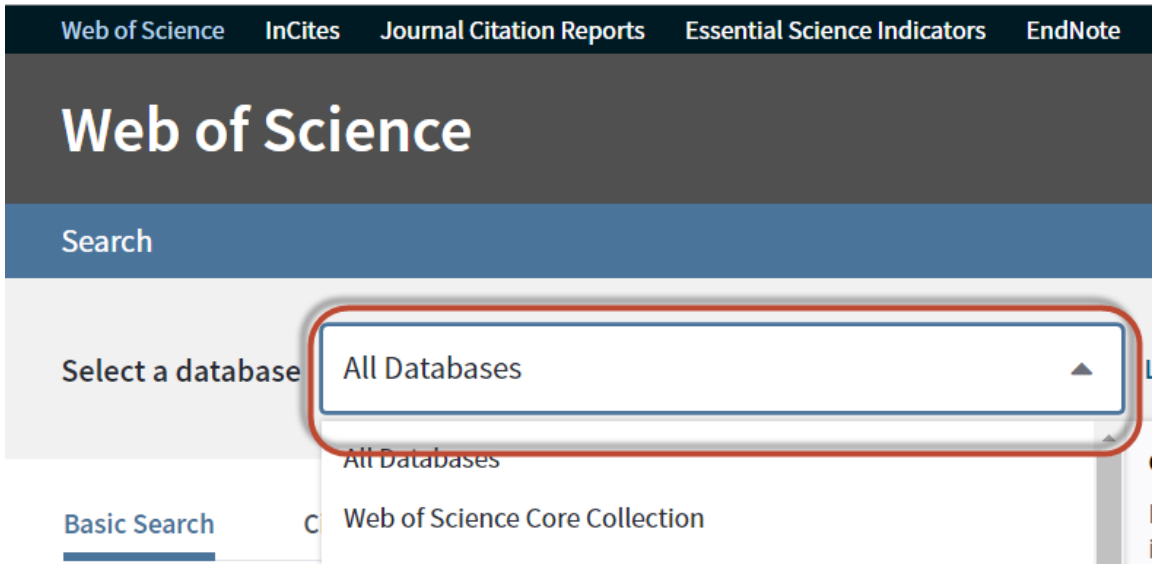
Match Manuscript



Downloads



Search All Databases on the Web of Science platform



A topic search at the *All Databases* level helps us discover contents in formats and document types across all content sets.

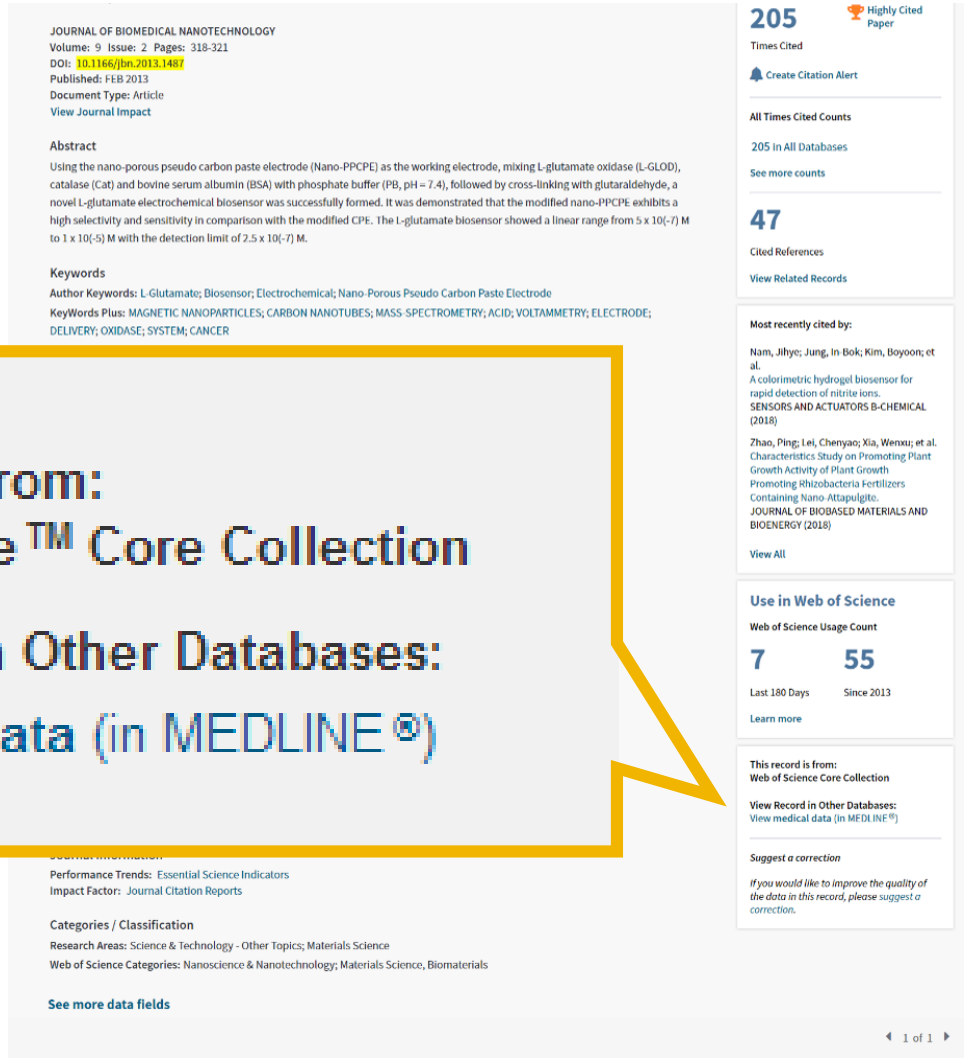
Also, in cases where there is an overlap between databases on the Web of Science platform--let's say the same article is indexed in Web of Science Core Collection and Medline, a search at the All Databases level provides additional information by letting you quickly access the article's metadata from each of those databases on the platform.

Super Record

Here's an example.
This is a record from a search at the All Databases level.

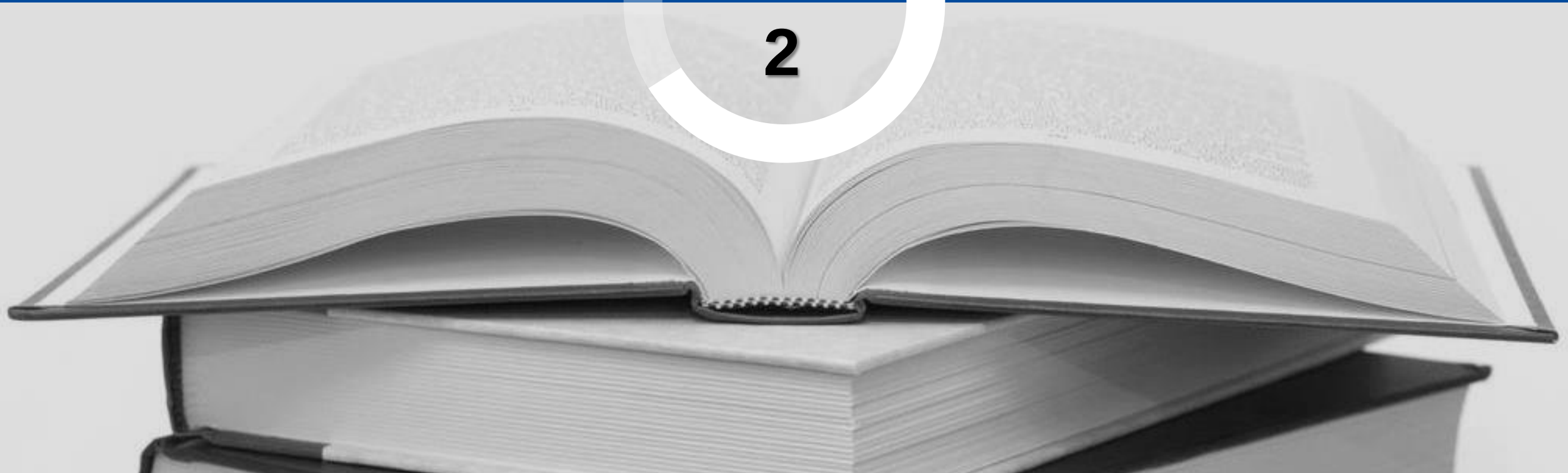
Since our entitlement include
Science Core Collection, the
presented with: the authors li
funding data, if available.

Since our entitlement also inc
a mark in the right sidebar wi
paper is also indexed in Medline, and that is.

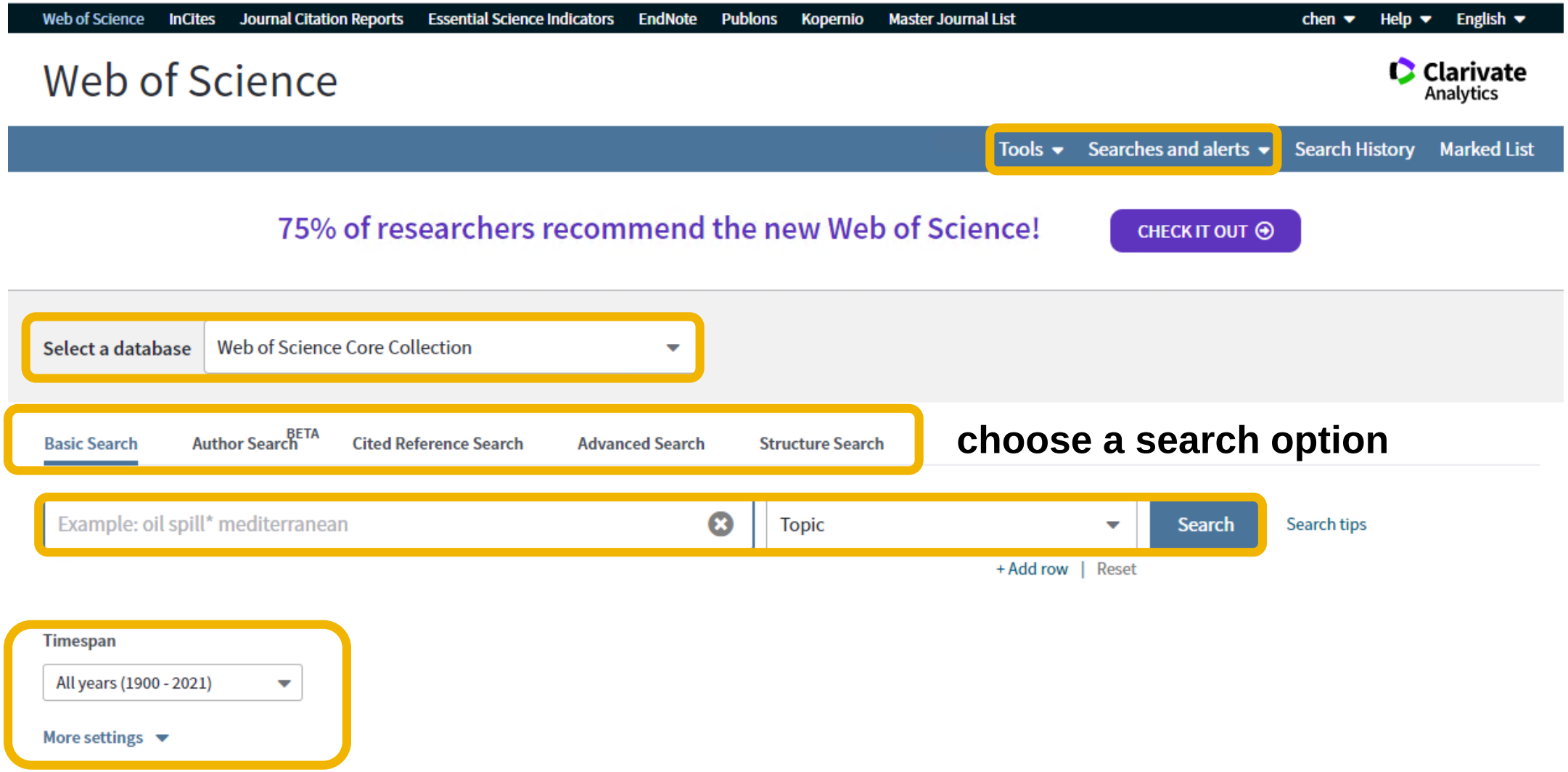


Information Retrieval with WOS Core Collection

Part 2

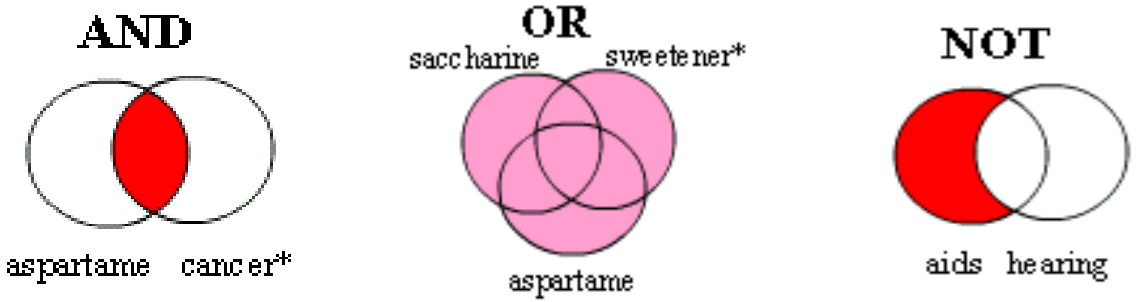


WOS Core Collection



Search operators

- Use **AND** to find records containing all of your search terms
- Use **OR** to find records containing any of your search terms
- Use **NOT** to exclude records containing certain words from your search



- Use **NEAR/n** to find records containing all terms within a certain number of words (n) of each other (stress NEAR/3 sleep)
- Use **SAME** in an Address search to find terms in the same line of the address (Tulane SAME Chem)

Wildcard characters

Use truncation for more control of the retrieval of plurals and variant spellings

*** zero to many characters**

gene*
gene, genetics, generation

? one character

en?oblast
entoblast, endoblast

$ zero or one character

colo$r
color, colour

Phrase Searching

To search exact phrases in Topic or Title searches, enclose a phrase in quotation marks. For example, the query “energy conservation” finds records containing the exact phrase *energy conservation*.

Basic Search

1. Search by author name

Enter the last name first, followed by a space and up to five initials.

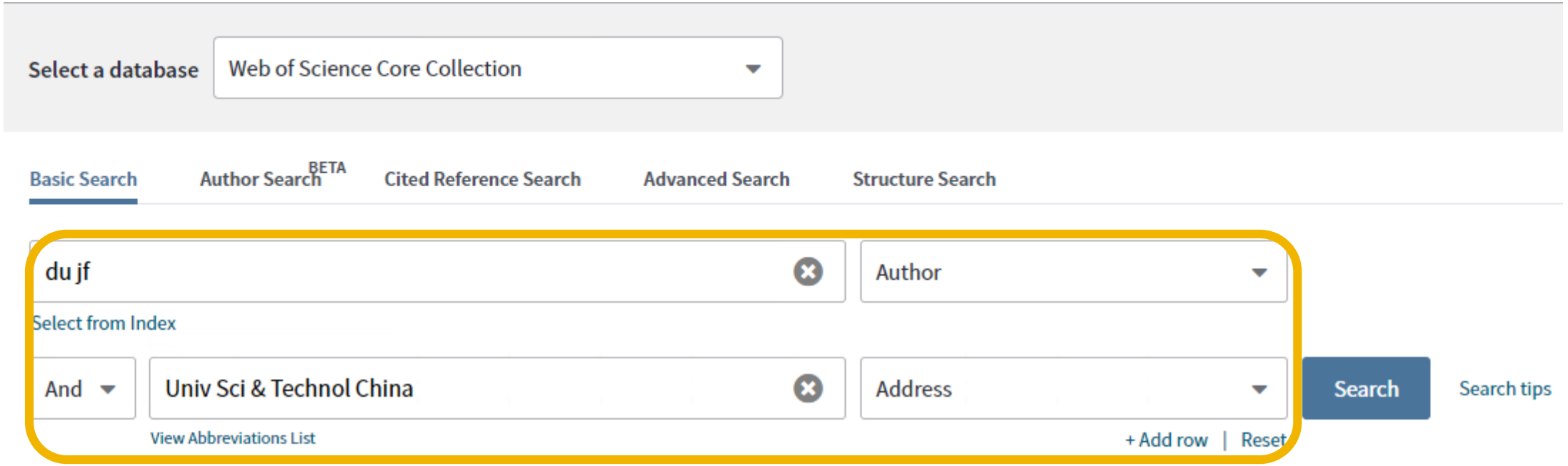
- Use truncation and search alternative spelling to find name variants:
- Driscoll C finds Driscoll C, Driscoll CM, Driscoll Charles, and so on.
- Driscoll finds all authors with the last name Driscoll.
- Search variant forms of names containing particles. For example, De la Cruz F OR Delacruz F finds Delacruz FM, De La Cruz FM, and so on.

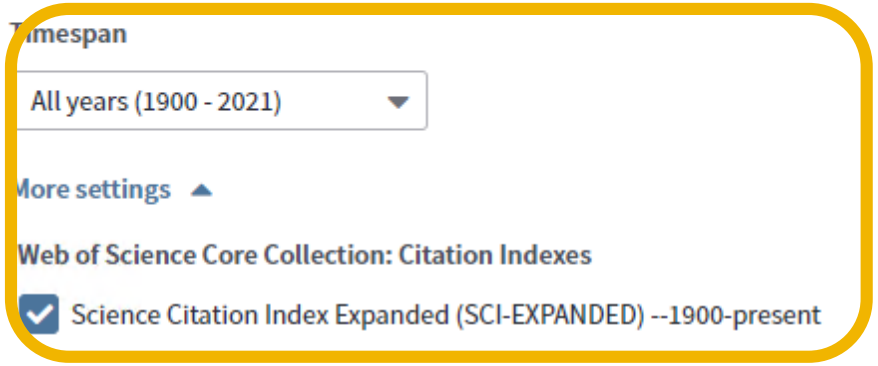
Currently, Web of Science platform has added support for searching by author's full name.

Example: Retrieve papers published by Prof. Jiangfeng Du

Jiangfeng Du, born in Wuxi, Jiangsu Province in 1969, is an academician of Chinese Academy of Sciences, specializing in spin quantum physics and its applications. He has developed a series of advanced spin quantum control methods to precisely manipulate spin quantum states and preserve its quantum coherence.

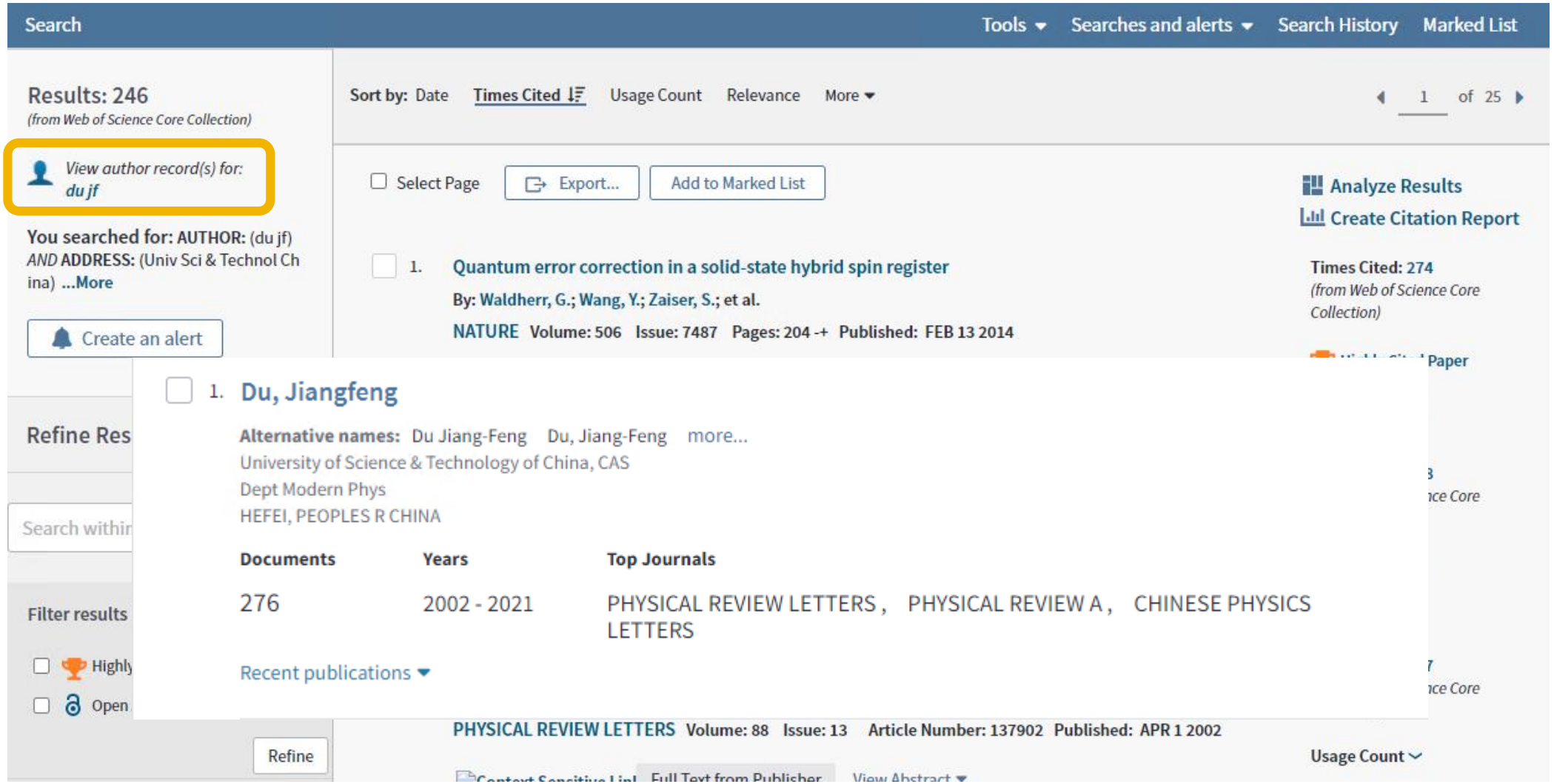
Example: Retrieve papers published by Pro. Jiangfeng Du



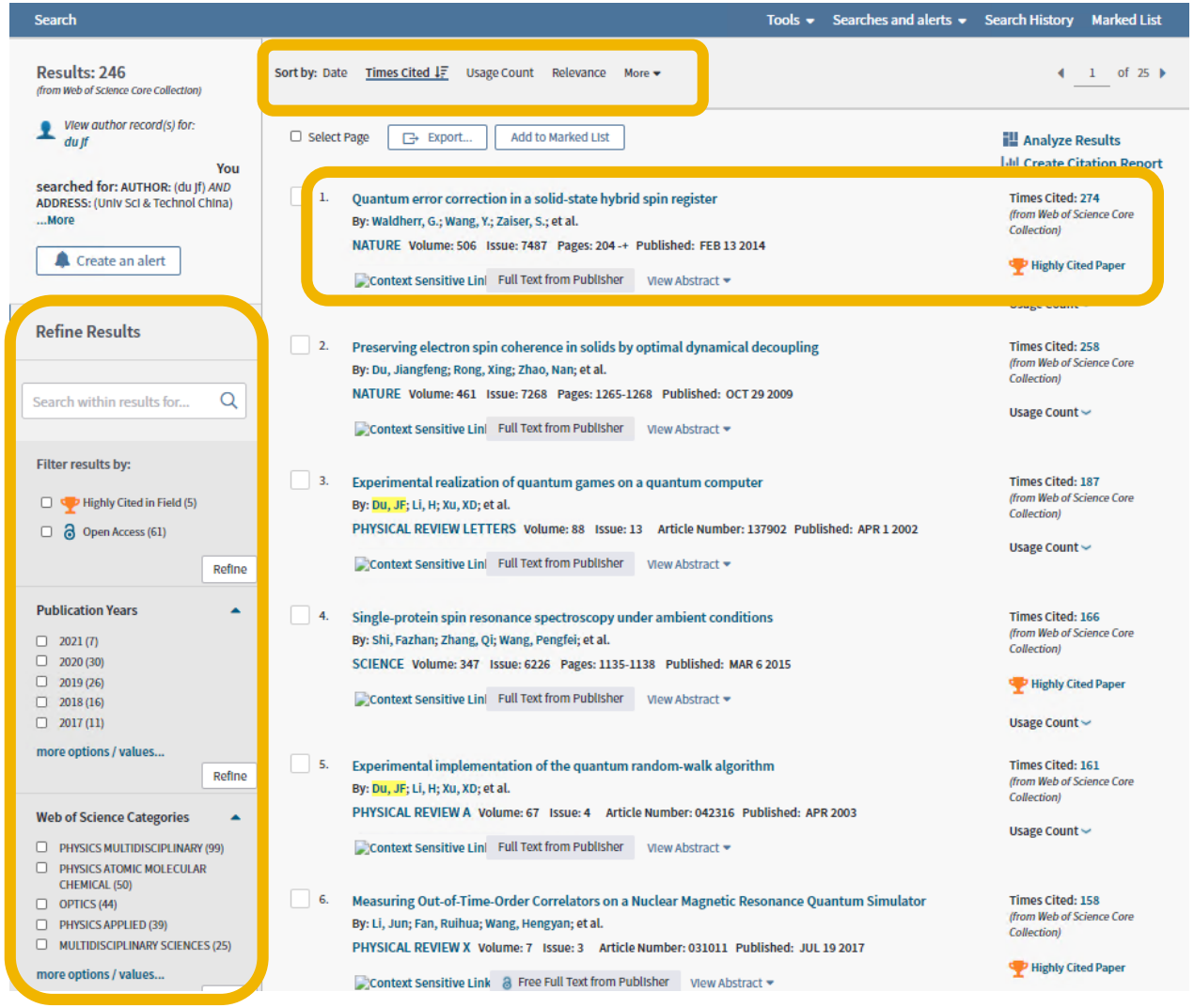


Methods of narrowing your search: Limit the author's affliation, publication year, collaborator, journal name, subject area, etc.

Search results



Search results



Article title

Click the article title to move to the full record. Links to full text may also be available (subscription required).

Sorting results

By Publication Date (default), Times Cited, Usage Count, Recently Added, Source, First Author or Conference name.

Refining results

Use Refine Results to mine the full set of results to find Hot & Highly Cited Papers, top Subject Categories, Publication Years, and more. Click **View All Options** to see the complete list of fields.

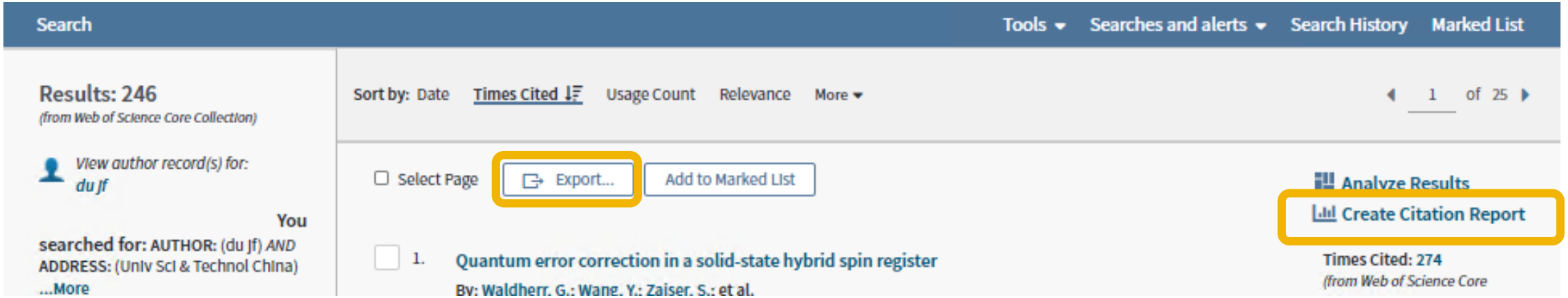
Search results

Export search results

Export to bibliographic management tools like *EndNote*, send to *InCites* for analysis, save as text, email, or add up to 50,000 to Marked List.

Create Citation Report

Click **Create Citation Report** to see a citation overview for any set of results with fewer than 10,000 records.



Citation Report

Total Publications
246 Analyze

h-Index
44

Average citations per item
25.02

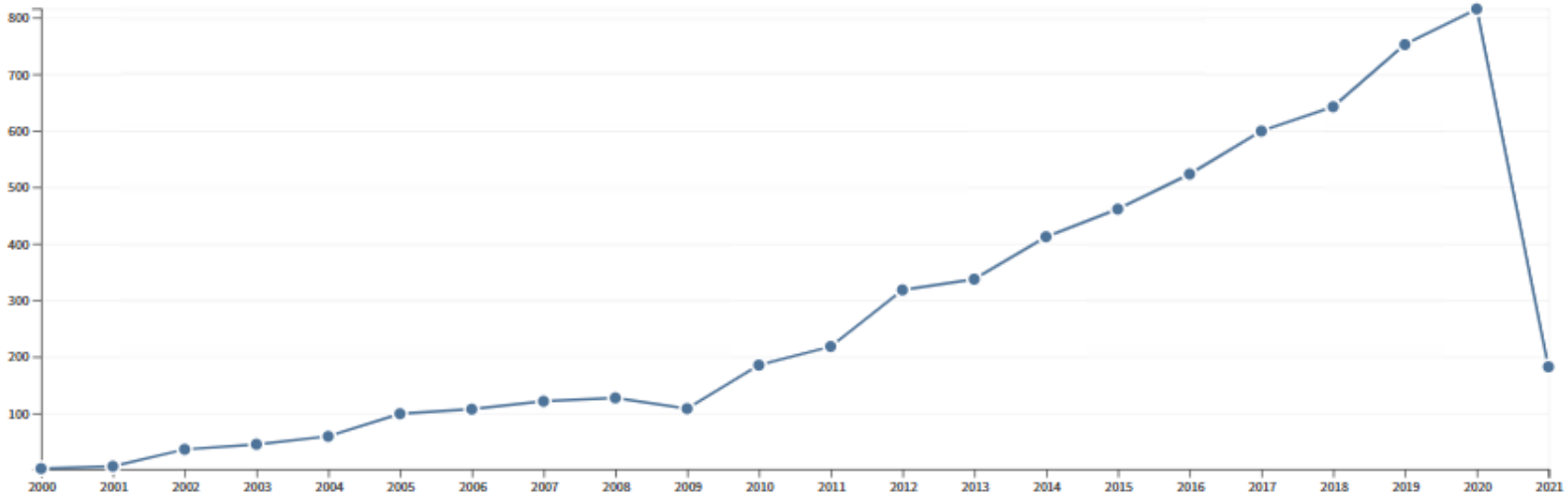
Sum of Times Cited
6,154

Without self citations
5,571

Citing articles
4,282 Analyze

Without self citations
4,101 Analyze

Sum of Times Cited per Year



H-index

H-index, also known as H-factor, is a new method of evaluating academic achievements. H stands for "high citations". The H-index of a researcher means that at most h papers have been cited at least h times.

The inventor of h-index is Jorge E.Hirsch.

What's wrong with the h-index, according to its inventor

"Severe unintended negative consequences."

24 March 2020

Gemma Conroy

It is also one of the most contentious topics scientists discuss, as Hirsch writes in the Physics and Society newsletter in January 2020.

"About half the scientific community loves the h-index and half hates it," writes Hirsch. "The h-index of the scientist itself is a great predictor of whether s/he belongs to the first or the second group."

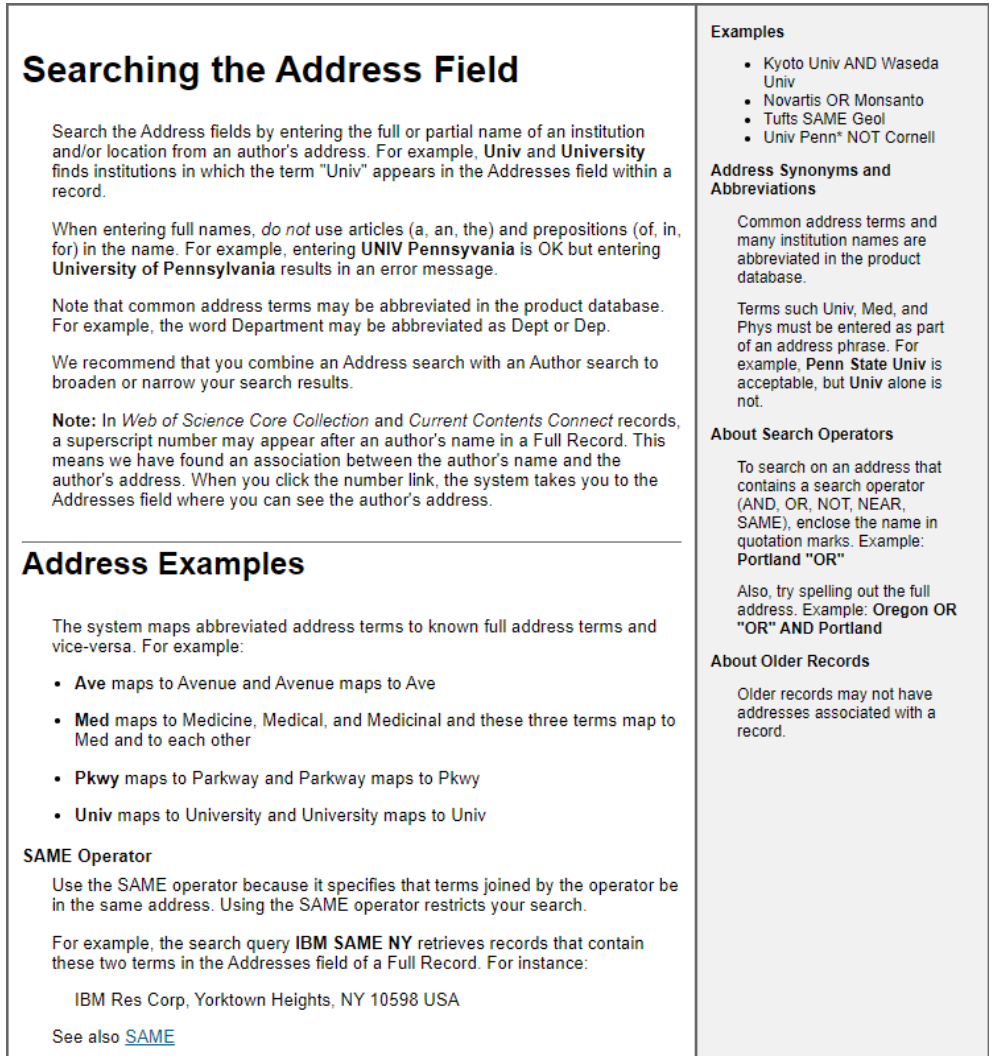
While Hirsch believes that the h-index is still one of the best objective measures of scientific achievement, he also writes that it can "fail spectacularly and have severe unintended negative consequences."

2. Search by address

Search the Address fields by entering the full or partial name of an institution and/or location from an author's address. For example, Univ and University finds institutions in which the term "Univ" appears in the Addresses field within a record.

When entering full names, DO NOT use articles (a, an, the) and prepositions (of, in, for) in the name. Note that common address terms may be abbreviated in the product database. For example, the word Department may be abbreviated as Dept or Dep.

We recommend that you combine an Address search with an Author search to broaden or narrow your search results.



Searching the Address Field

Search the Address fields by entering the full or partial name of an institution and/or location from an author's address. For example, **Univ** and **University** finds institutions in which the term "Univ" appears in the Addresses field within a record.

When entering full names, *do not* use articles (a, an, the) and prepositions (of, in, for) in the name. For example, entering **UNIV Pennsyvania** is OK but entering **University of Pennsylvania** results in an error message.

Note that common address terms may be abbreviated in the product database. For example, the word Department may be abbreviated as Dept or Dep.

We recommend that you combine an Address search with an Author search to broaden or narrow your search results.

Note: In *Web of Science Core Collection* and *Current Contents Connect* records, a superscript number may appear after an author's name in a Full Record. This means we have found an association between the author's name and the author's address. When you click the number link, the system takes you to the Addresses field where you can see the author's address.

Address Examples

The system maps abbreviated address terms to known full address terms and vice-versa. For example:

- **Ave** maps to Avenue and Avenue maps to Ave
- **Med** maps to Medicine, Medical, and Medicinal and these three terms map to Med and to each other
- **Pkwy** maps to Parkway and Parkway maps to Pkwy
- **Univ** maps to University and University maps to Univ

SAME Operator

Use the SAME operator because it specifies that terms joined by the operator be in the same address. Using the SAME operator restricts your search.

For example, the search query **IBM SAME NY** retrieves records that contain these two terms in the Addresses field of a Full Record. For instance:

IBM Res Corp, Yorktown Heights, NY 10598 USA

See also SAME

Examples

- Kyoto Univ AND Waseda Univ
- Novartis OR Monsanto
- Tufts SAME Geol
- Univ Penn* NOT Cornell

Address Synonyms and Abbreviations

Common address terms and many institution names are abbreviated in the product database.

Terms such Univ, Med, and Phys must be entered as part of an address phrase. For example, **Penn State Univ** is acceptable, but **Univ** alone is not.

About Search Operators

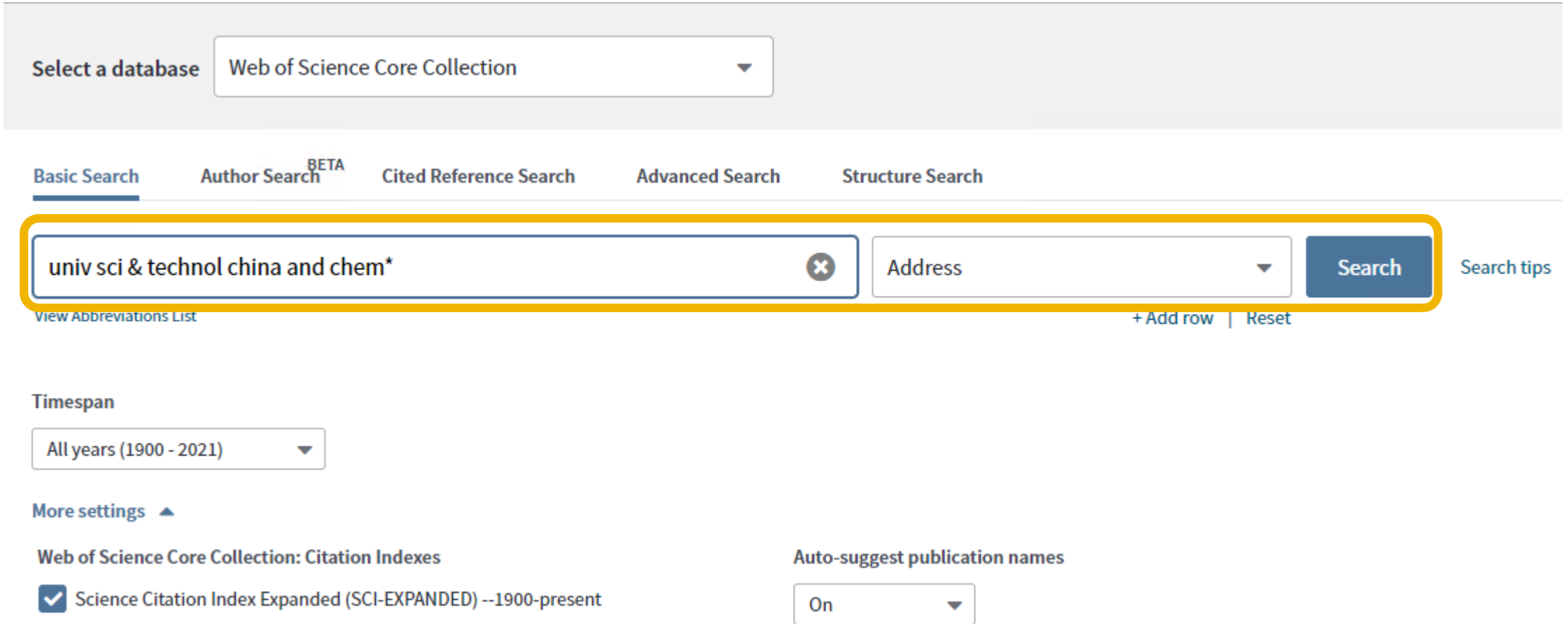
To search on an address that contains a search operator (AND, OR, NOT, NEAR, SAME), enclose the name in quotation marks. Example: **Portland "OR"**

Also, try spelling out the full address. Example: **Oregon OR "OR" AND Portland**

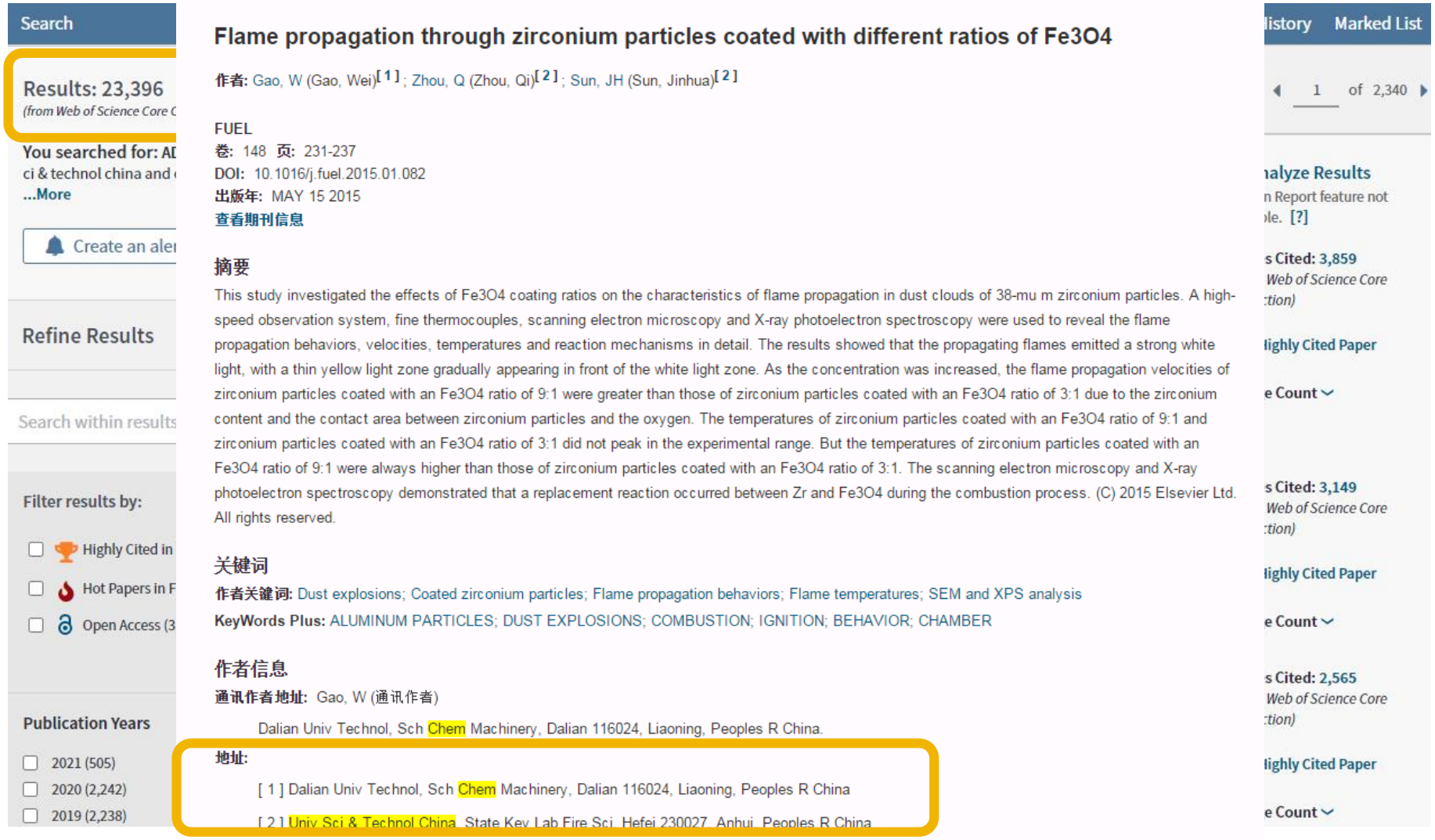
About Older Records

Older records may not have addresses associated with a record.

Example: Retrieving papers published by School of Chemistry of USTC



Example: Retrieving papers published by School of Chemistry of USTC

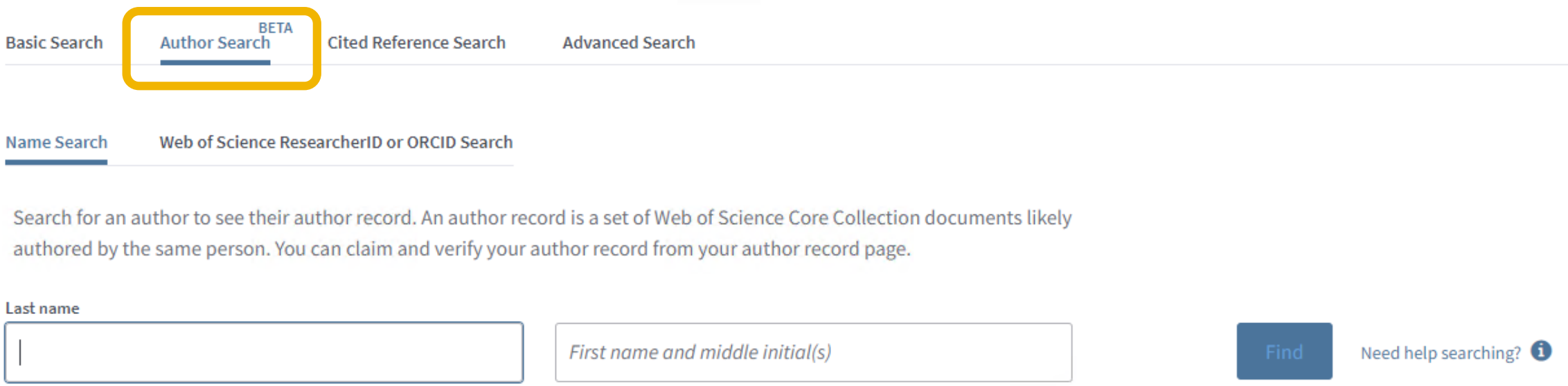


Example: Retrieving papers published by School of Chemistry of USTC

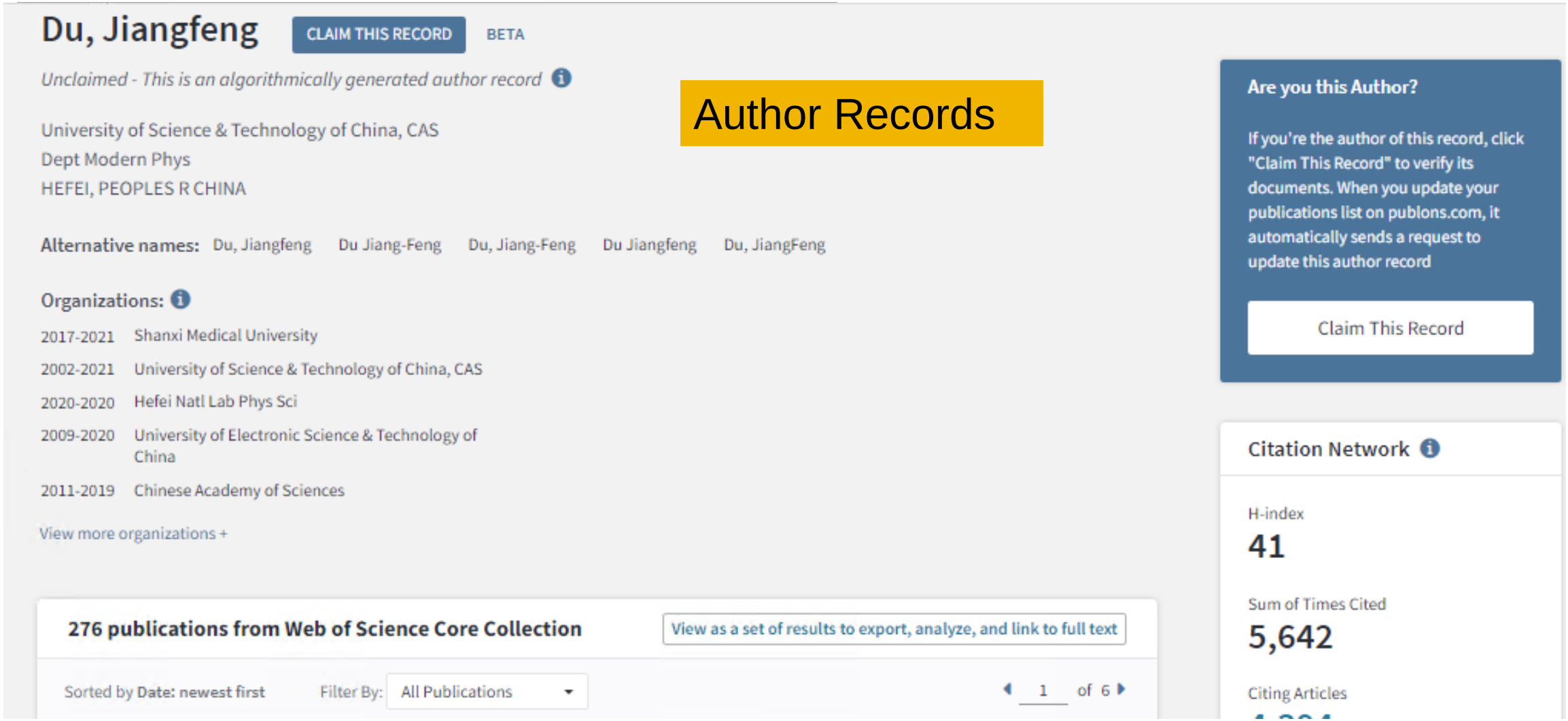
Author Search(BETA)

Author Search

1. Click on Author Search to begin a guided search for author records associated with an author name.
2. Enter an author’ s last and first names. You may enter alternative names to account for name changes or other variations. Click Include alternative name to create additional search rows.
3. Alternatively, search by Web of Science ResearcherID or ORCID identifier



Author Search



Cited Reference Search

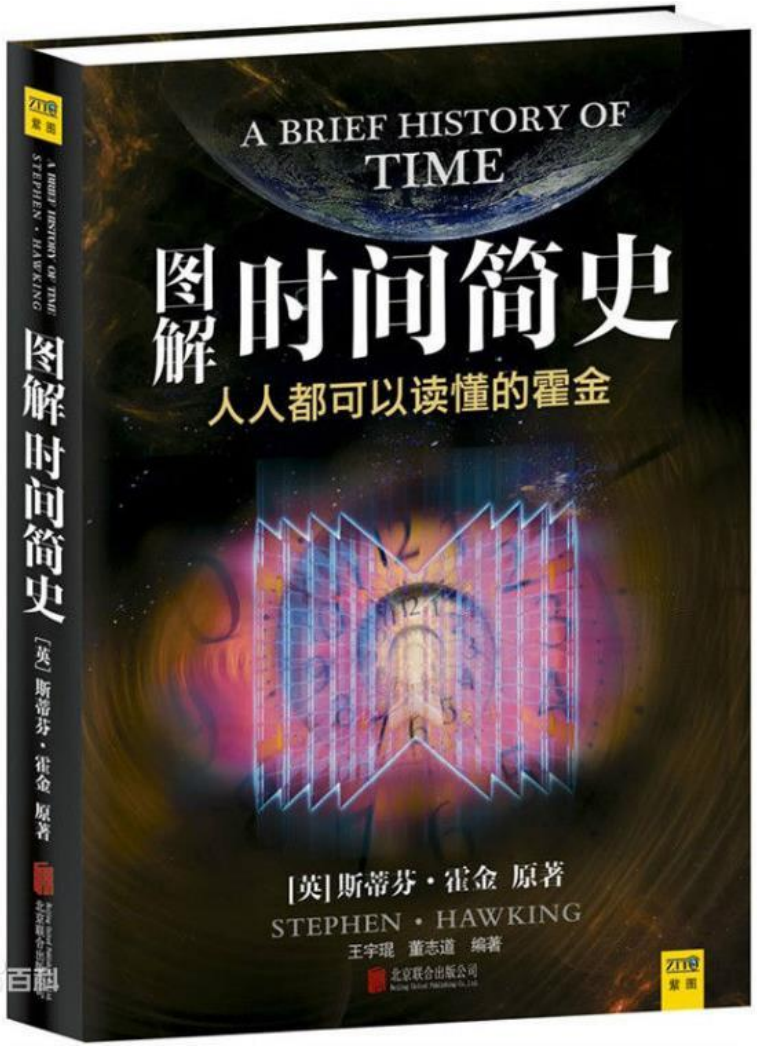
Features of Cited Reference Search

Use an article (regardless of whether it is a SCI paper), an author, a journal, a patent or a book as search terms to search for cited documents.

When you don’t know keywords or it is difficult to define keywords, you can start from a high-quality document, understand the overall picture of the subject, track the latest development, and plan the next research.

- Has a certain theory been further confirmed? Has it been applied to new areas?
- The latest development and extension of a certain research?
- Has an experimental method been improved?
- How to understand the citation status of a certain paper/a work and reveal its influence?

Example: A Brief History Of Time



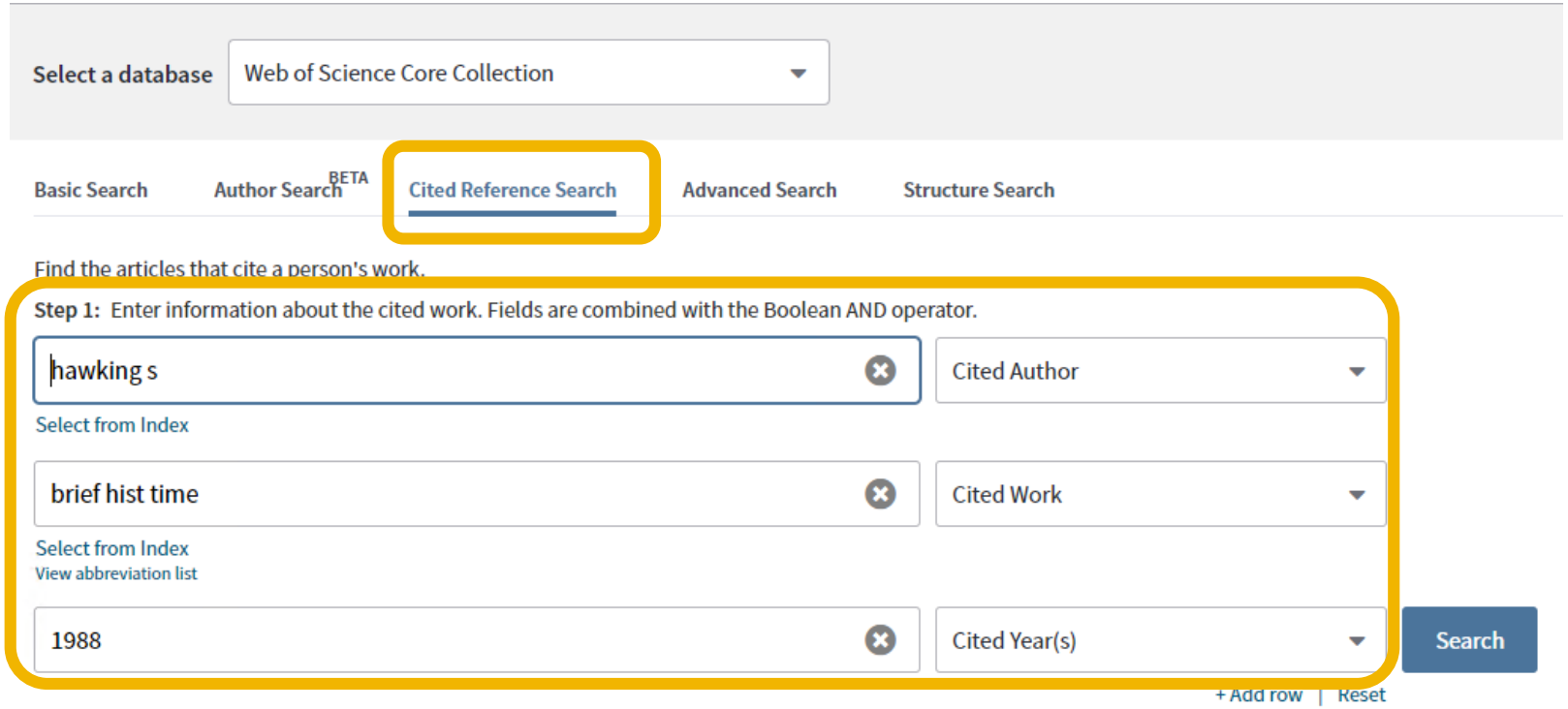
- Learn about Hawking's "A Brief History of Time" through cited reference search

- What are the different perspectives and viewpoints for this book?
- What theories have been put forward by other physicists following his method analysis?
- What are the latest developments and applications in the last 5 years?

Example: A Brief History Of Time

Step One

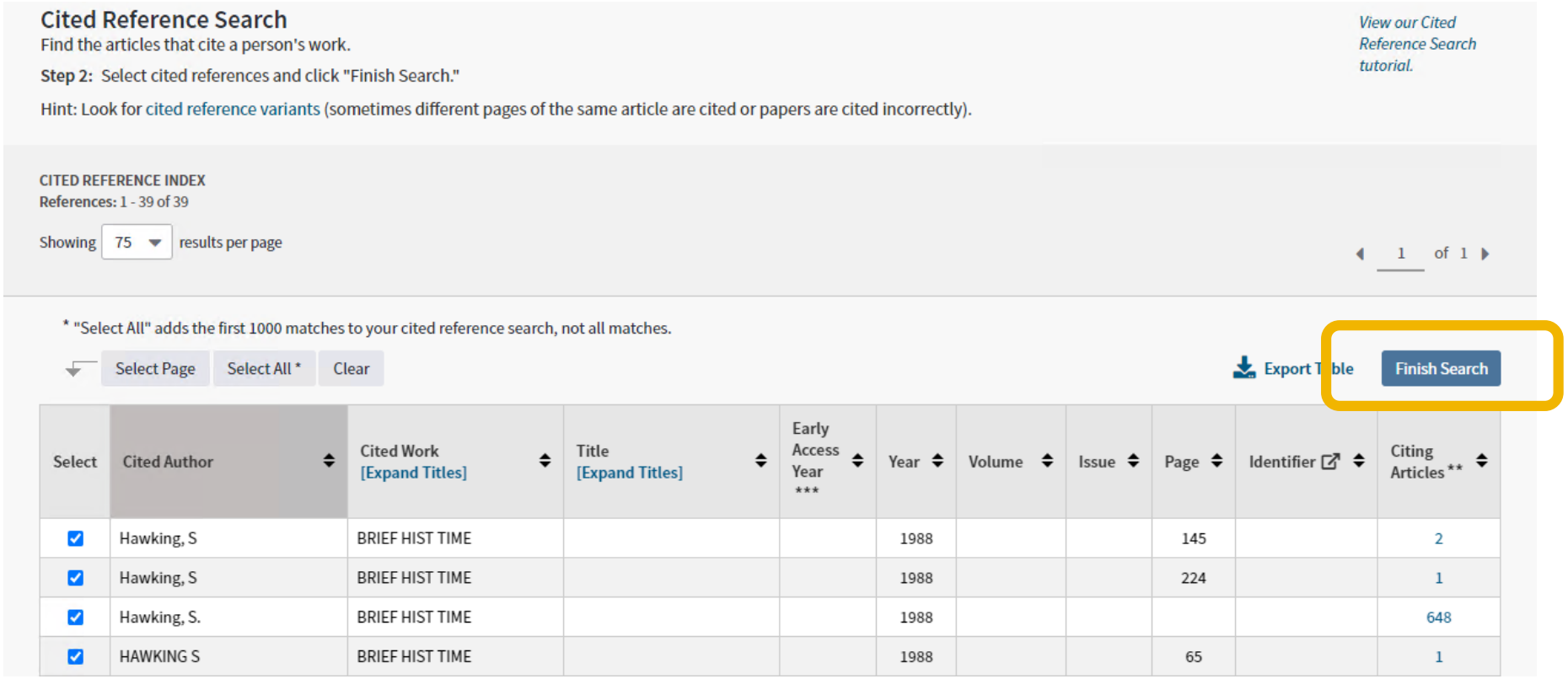
- Navigate to Cited Reference Search.
- Search by Cited Author, Cited Work, Cited Year.
- Use the Abbreviation List for help with abbreviations.



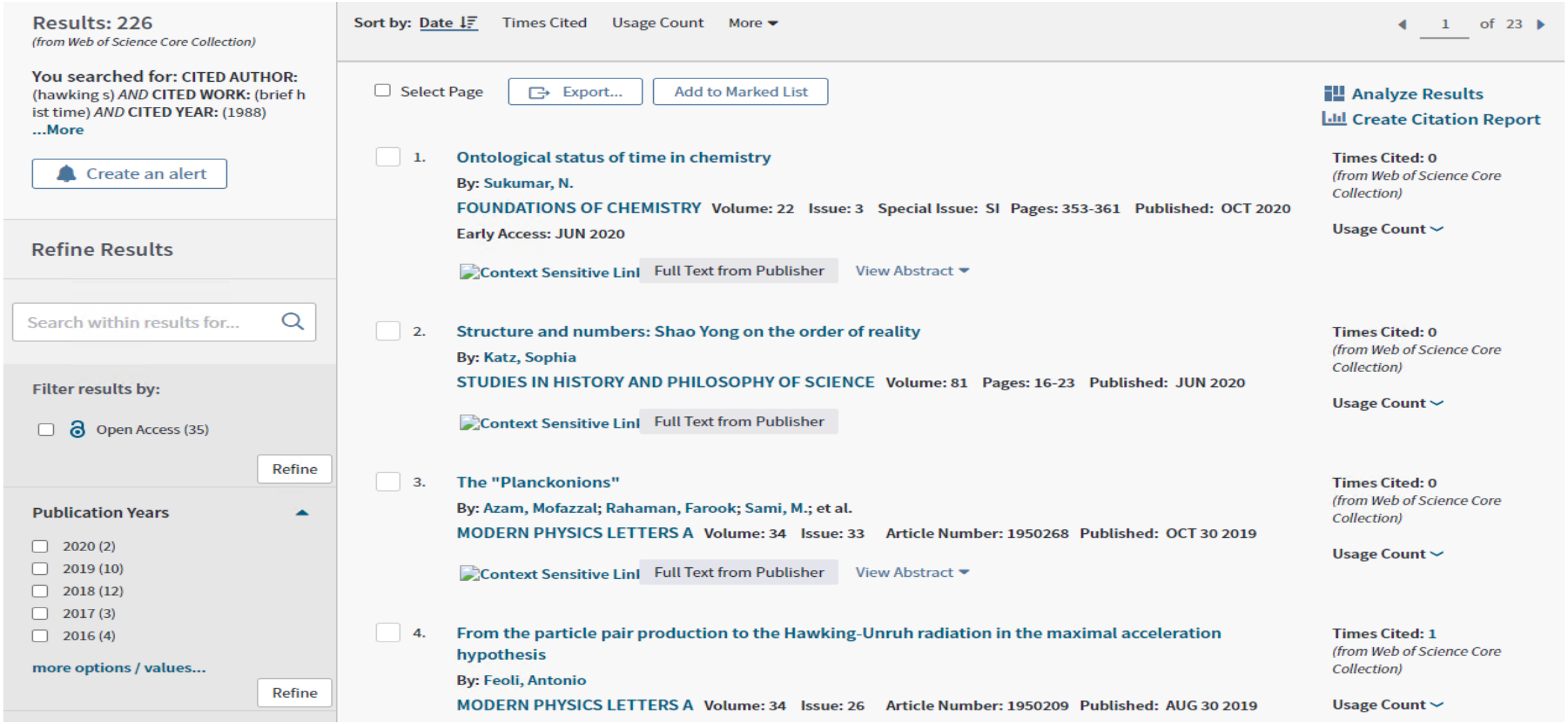
Example: A Brief History Of Time

Step Two

Select the references, including variants, to include in your search, then click “Finish Search” to display your search results.



Example: A Brief History Of Time



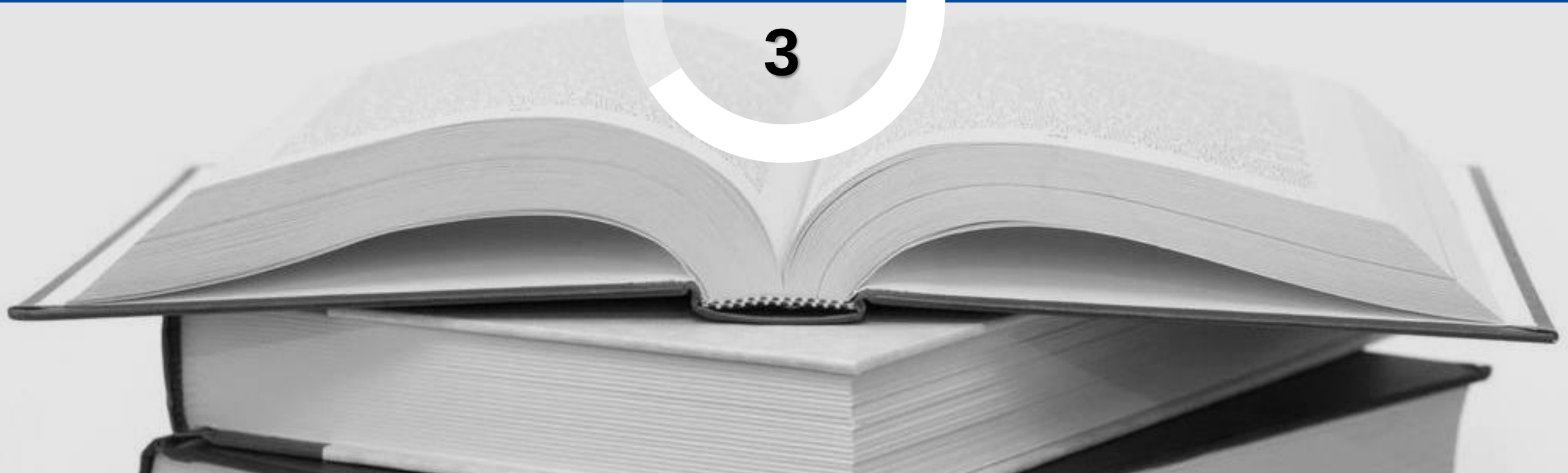
Cited reference search tips

- Use wildcard characters on Cited Authors and Cited Work.
- Look for variants (sometimes papers are cited incorrectly) before finishing your search.
- The “Citing Articles” count reflects citations from all years and all editions of the Core Collection – even those years and editions you don’t subscribe to.
- All cited references are indexed and searchable, including references to books, patents, government documents, etc. Secondary cited authors, full source titles, and non-standard source abbreviations are automatically searched across all source records in the Web of Science. Keep in mind that a search of this sort may only return partial results.
- Since 2012, all references to ‘non source’ items (books, newspaper items, etc.) are fully indexed (full list of authors, full title, etc.) as published. Click “Show Expanded Titles” to see the full reference information.

Information Analysis with WOS Core Collection

Part

3



Topic search

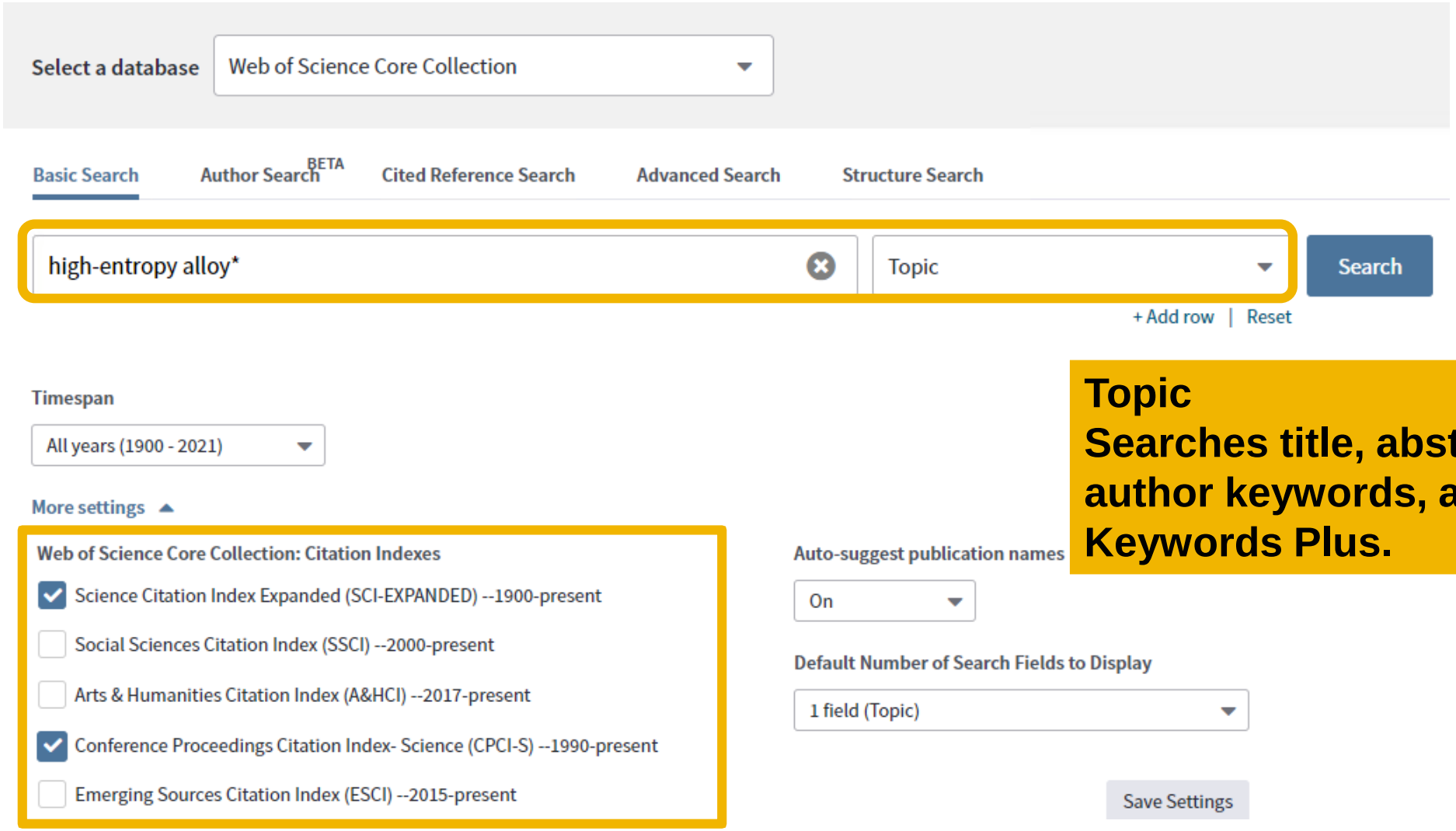
- Traceability-search for reviewing documents on a certain topic
- Quickly lock in high-impact papers related to this topic
- Analyze research development trends
- Understand the distribution of a specific topic in different disciplines
- Know the institutions related to research direction
- Pay close attention to papers published by leading research groups in the field
- Cited reference search helps obtain ideas and stimulate research ideas

Research topic: high-entropy alloys

A high-entropy alloy is which can generally be defined as alloying with more than five element components in an equal atomic ratio or close to an equal atomic ratio. It is based on the development of bulk amorphous alloys in the 1990s.

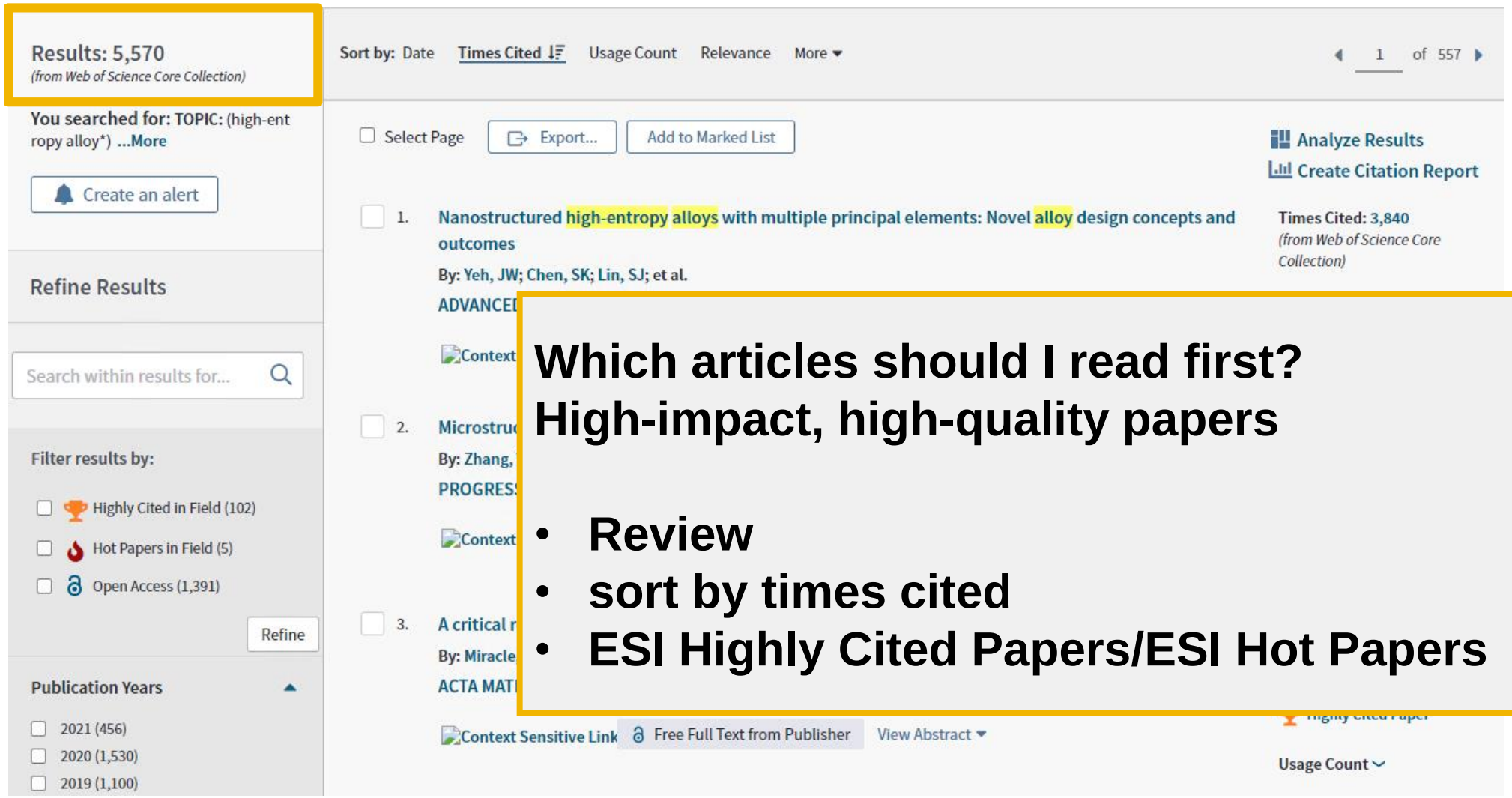
Research reports have found that high-entropy alloys have some excellent properties that traditional alloys can't match, such as high strength, high hardness, high thermal resistance, etc.It has become a new research hotspot after relaying bulk amorphous in the fields of materials science and condensed matter physics.

Research topic: high-entropy alloys



Topic
Searches title, abstract, author keywords, and Keywords Plus.

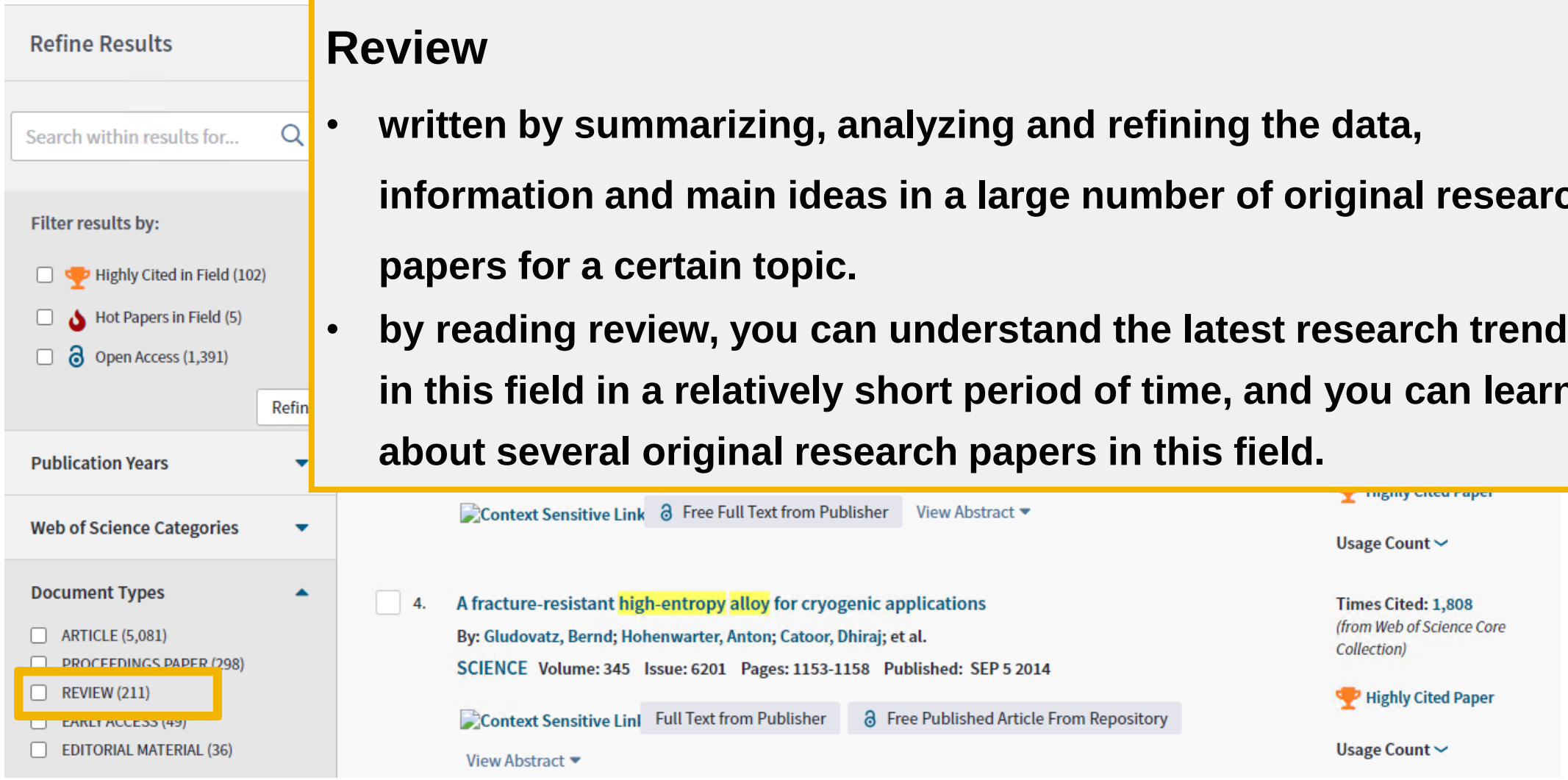
Research topic: high-entropy alloys



Which articles should I read first?
High-impact, high-quality papers

- **Review**
- **sort by times cited**
- **ESI Highly Cited Papers/ESI Hot Papers**

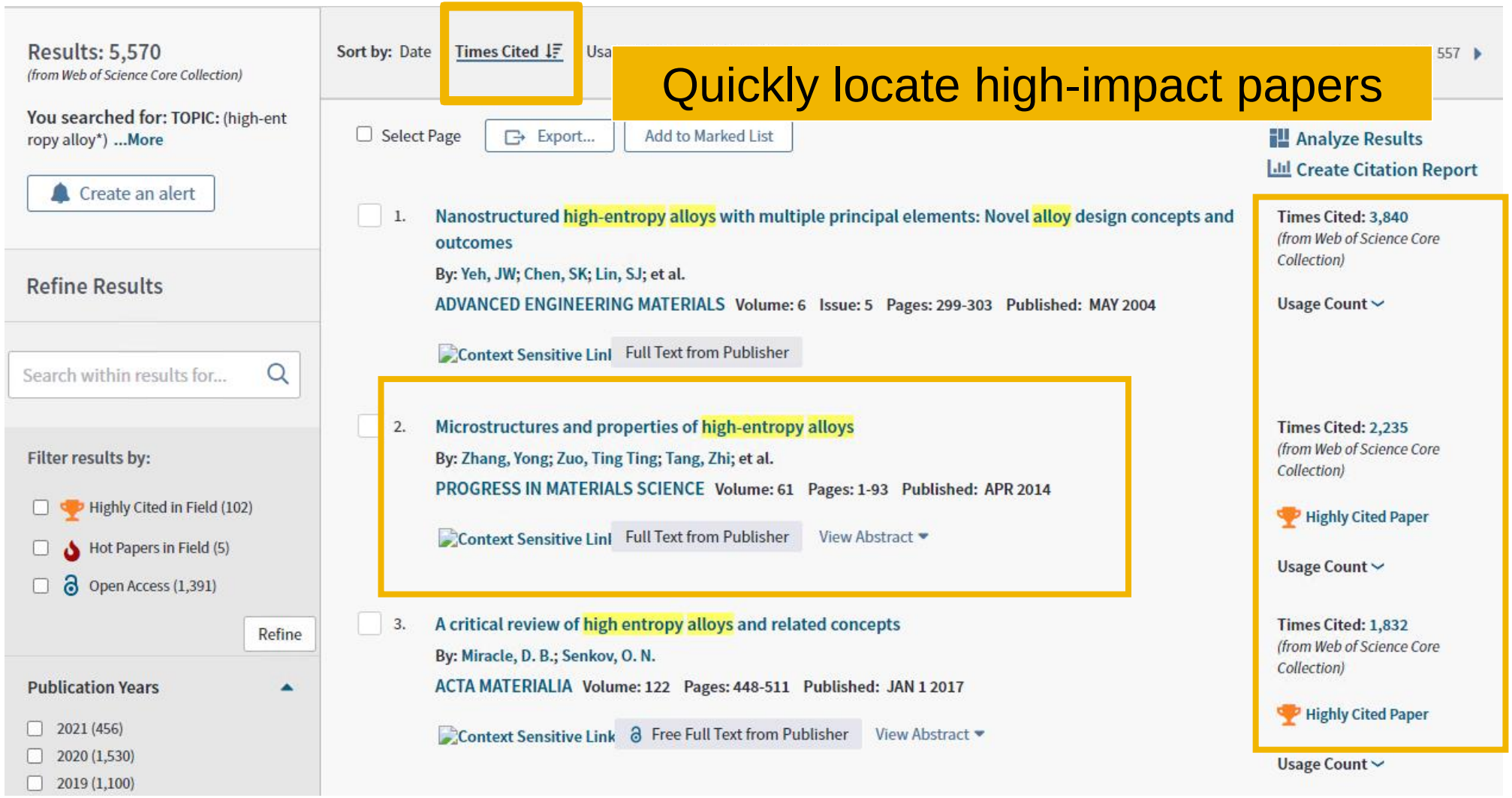
Research topic: high-entropy alloys



Review

- written by summarizing, analyzing and refining the data, information and main ideas in a large number of original research papers for a certain topic.
- by reading review, you can understand the latest research trends in this field in a relatively short period of time, and you can learn about several original research papers in this field.

Research topic: high-entropy alloys



Full record page

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2 of 5,570

Microstructures and properties of high-entropy alloys

By: Zhang, Y (Zhang, Yong)[1]; Zuo, TT (Zuo, Ting Ting)[1]; Tang, Z (Tang, Zhi)[2]; Gao, MC (Gao, Micha
Liaw, PK (Liaw, Peter K.)[2]; Lu, ZP (Lu, Zhao Ping)[1]

View Web of Science ResearcherID and ORCID

Professor Zhang Yong from Univ Sci & Technol Beijing summarized the series of progress in this field, including the first preparation by Zhang Yong's group in 2007 to prepare a body-centered cubic high-entropy solid solution alloy with properties comparable to bulk amorphous alloys but with room temperature shaping.

materials with unique properties, which cannot be achieved by the conventional micro-alloying approach based on only one dominant element. Up to date, many HEAs with promising properties have been reported, e.g., high wear-resistant HEAs, Co1.5CrFeNi1.5Ti and Al0.2Co1.5CrFeNi1.5Ti alloys; high-strength body-centered-cubic (BCC) AlCoCrFeNi HEAs at room temperature, and NbMoTaV HEA at elevated temperatures. Furthermore, the general corrosion resistance of the Cu0.5NiAlCoCrFeSi HEA is much better than that of the conventional 304-stainless steel. This paper first reviews HEA formation in relation to thermodynamics, kinetics, and processing. Physical, magnetic, chemical, and mechanical properties are then discussed. Great details are provided on the plastic deformation, fracture, and magnetization from the perspectives of crackling noise and Barkhausen noise measurements, and the

Citation Network
- Cited References
- Times Cited Counts
- Related Record Search
- Citation Alerts

Citation Network

In Web of Science Core Collection

2,235

Times Cited

Highly Cited Paper

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297

Cited References

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Cited References

All cited references are indexed and searchable via Cited Reference Search. Click the "Cited References" link in the Citation Network to move to the cited reference view.

249. Electrochemical preparation and magnetic study of Bi-Fe-Co-Ni-Mn high entropy alloy
By: Yao, Chen-Zhong; Zhang, Peng; Liu, Meng; et al.
ELECTROCHIMICA ACTA Volume: 53 Issue: 28 Pages: 8359-8365 Published: NOV 3
Context Sensitive Link | Full Text from Publisher | View Abstract
Times Cited: 72 (from Web of Science Core

Retrace the previous basic research...

250. Re
By
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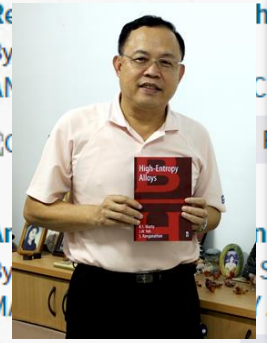

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Times Cited: 664 (from Web of Science Core Collection)

Yeh Jien-Wei, National Tsinghua University, known as the father of high-entropy alloys, published an article on multi-component nano-structured high-entropy alloys in May 2004. He proposed the research results of high-entropy alloys and made breakthroughs in the history of materials science.

251. Ar
By
M
Context Sensitive Link | Full Text from Publisher | View Abstract
Times Cited: 249 (from Web of Science Core Collection)

252. Nanostructured high-entropy alloys with multiple principal elements: Novel alloy design concepts and outcomes
By: Yeh, JW; Chen, SK; Lin, SJ; et al.
ADVANCED ENGINEERING MATERIALS Volume: 6 Issue: 5 Pages: 299-303 Published: MAY 2004
Context Sensitive Link | Full Text from Publisher
Times Cited: 3,840 (from Web of Science Core Collection)

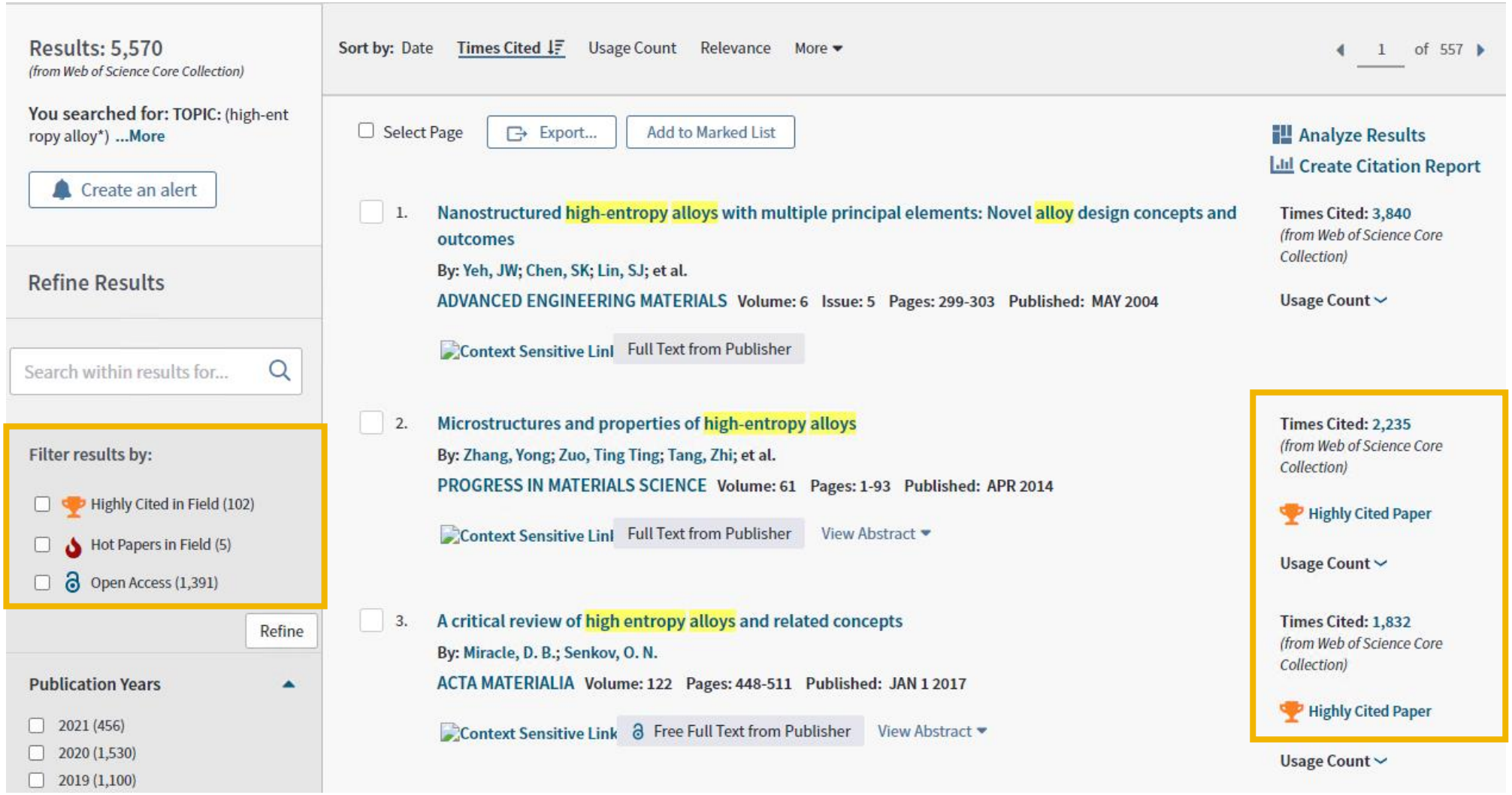
Improve disclosure by citing classic documents

- According to WOS data collection, among the top 50 most cited documents, 84% were published 20 years ago and 36% were published 40 years ago.

- Editors and reviewers will pay attention to the references of the papers and whether they contain some "founding stone" papers in this field. If the references are missing classic papers, it may be considered that the research cornerstone is unstable.

- From the statistical data of reference documents, highly cited papers have some significant commonalities: that is, the number of references is large, and the reference papers are all relatively old.

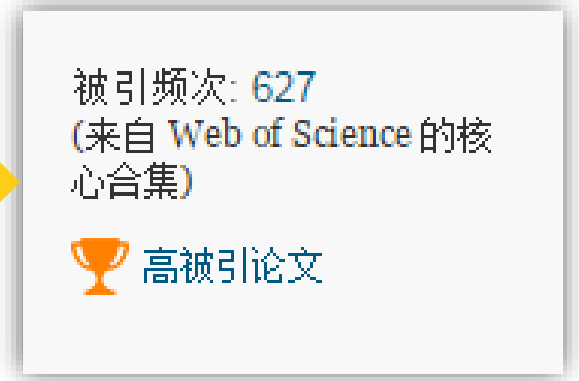
ESI Highly Cited Papers/ESI Hot Papers



ESI Highly Cited Papers/ESI Hot Papers

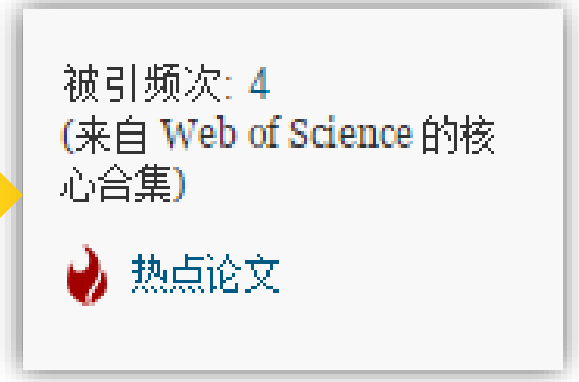
Highly Cited Paper

- The number of citations of papers published in the past 10 years ranks among the top 1% of papers published in the same discipline in the world.

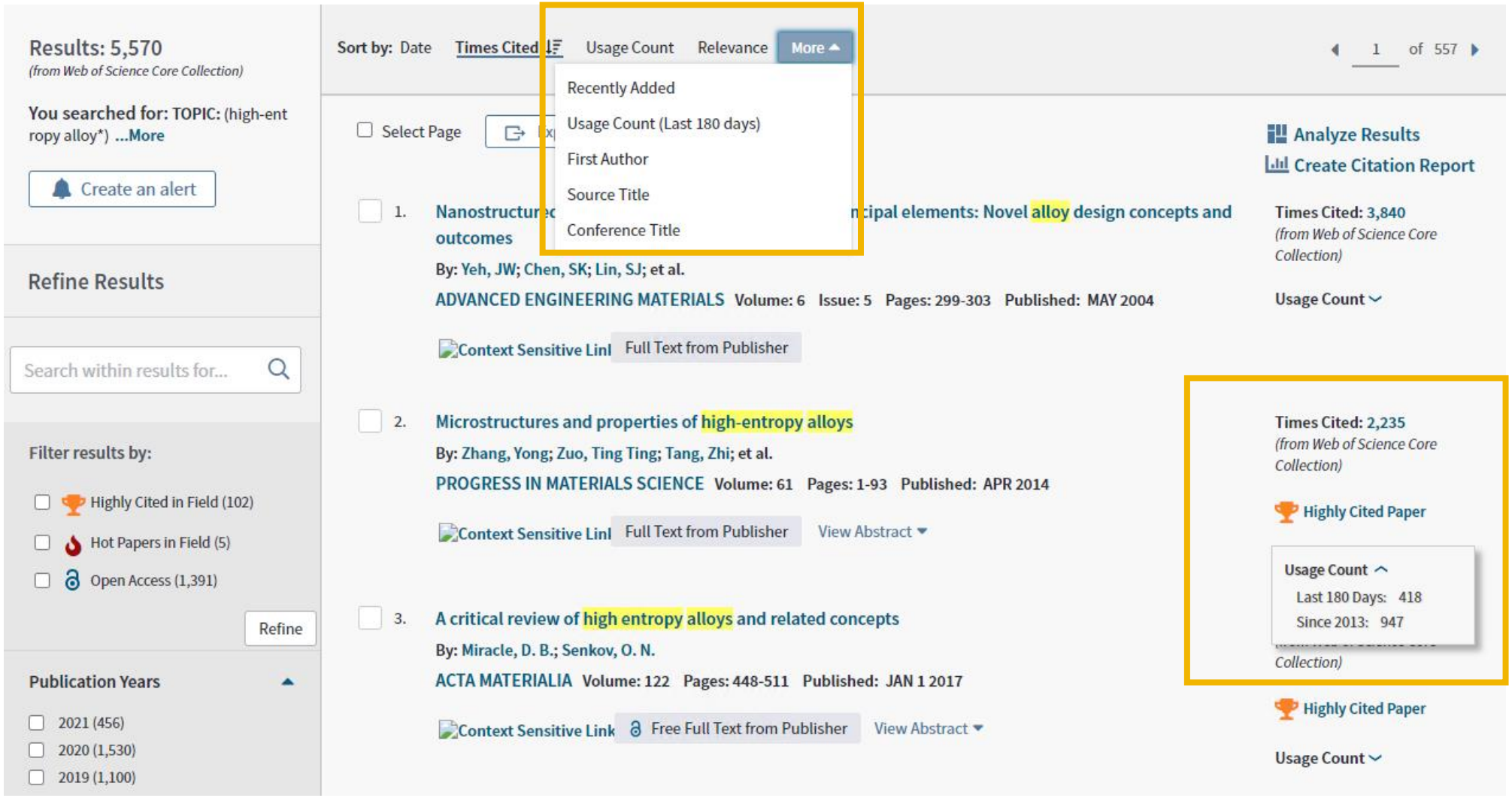


Hot Paper

- Papers published in the past 2 years, the impact of which ranks in the top 0.1% of a certain subject in the last two months



Usage count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Search within results for...
Filter results by:
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Hot Papers in Field (5)
Open Access (1,391)
Refine
Publication Years
2021 (456)
2020 (1,530)
2019 (1,100)
Sort by: Date
Times Cited
Usage Count
Relevance
More
Recently Added
Usage Count (Last 180 days)
First Author
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1. Nanostructured ... cipal elements: Novel alloy design concepts and outcomes
By: Yeh, JW; Chen, SK; Lin, SJ; et al.
ADVANCED ENGINEERING MATERIALS Volume: 6 Issue: 5 Pages: 299-303 Published: MAY 2004
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Times Cited: 3,840
(from Web of Science Core Collection)
Usage Count
2. Microstructures and properties of high-entropy alloys
By: Zhang, Yong; Zuo, Ting Ting; Tang, Zhi; et al.
PROGRESS IN MATERIALS SCIENCE Volume: 61 Pages: 1-93 Published: APR 2014
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3. A critical review of high entropy alloys and related concepts
By: Miracle, D. B.; Senkov, O. N.
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Remarks:

- The usage count records all operations performed by all Web of Science users, not just users in your organization.
- If a document has multiple different versions on the Web of Science platform, the number of uses of these versions will be unified.
- The number of uses is updated once a day.

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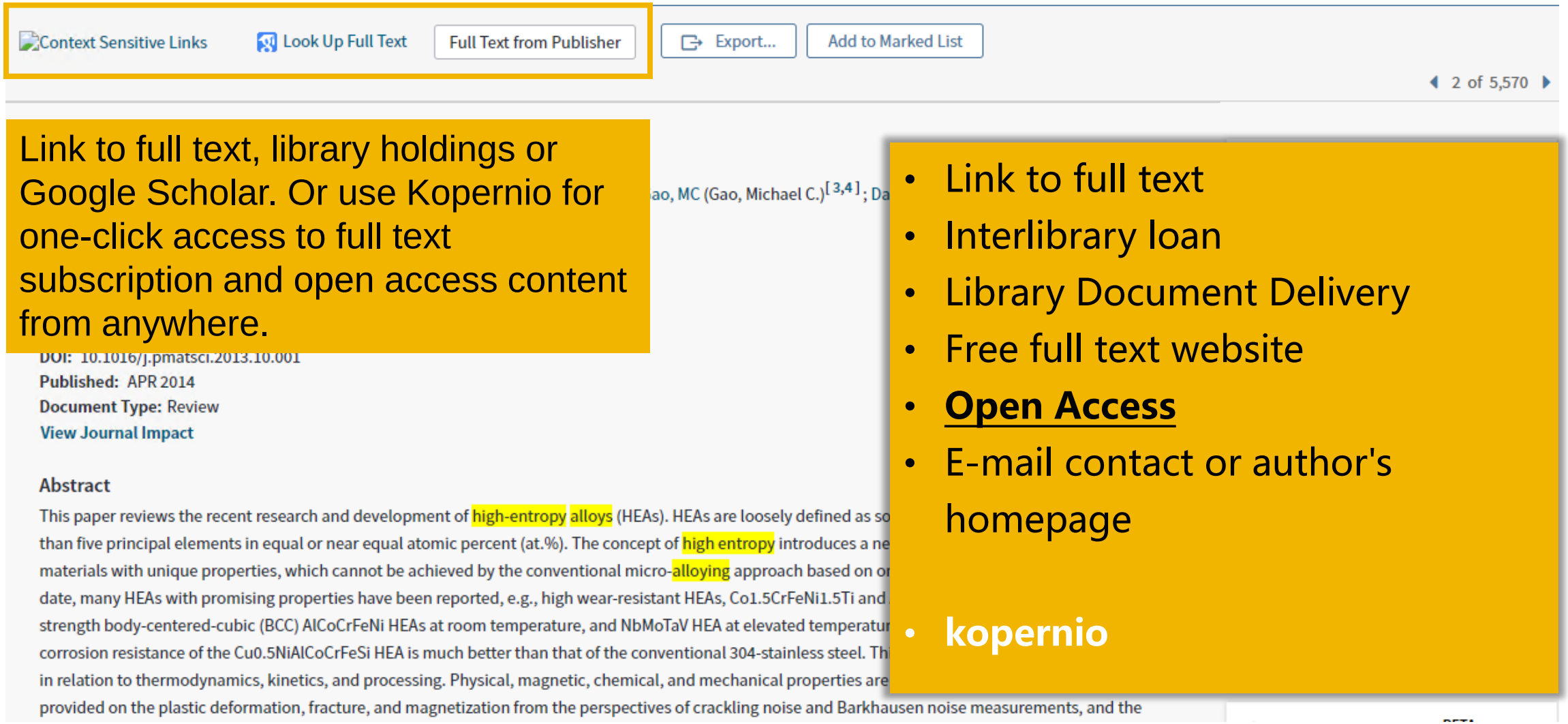
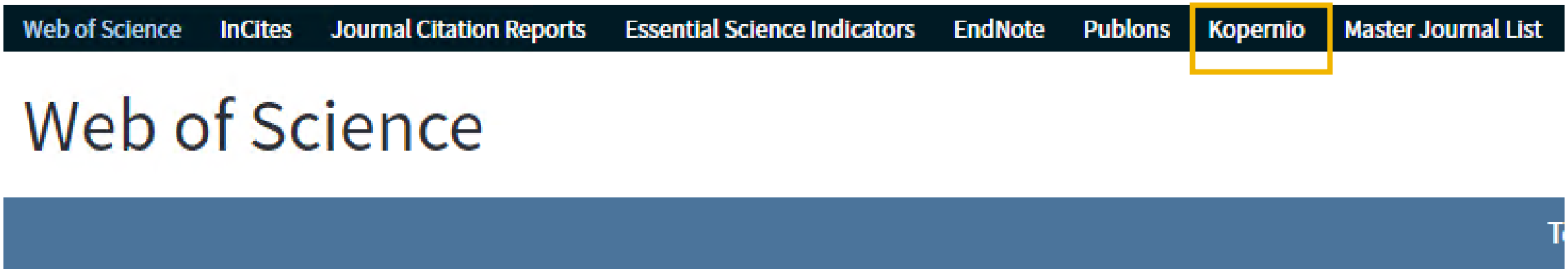


Full text acquisition tool: Kopernio

Kopernio is a free browser plug-in and online tool that integrates more than 20,000 journal websites, platforms, databases, open access knowledge bases and search engines to help users achieve one-click legal access to the full text of academic journals.

Kopernio's one-click full text retrieval function has been implemented in Web of Science. (Chrome or Firefox can be used)

Click "Kopernio" at the top of the Web of Science interface.



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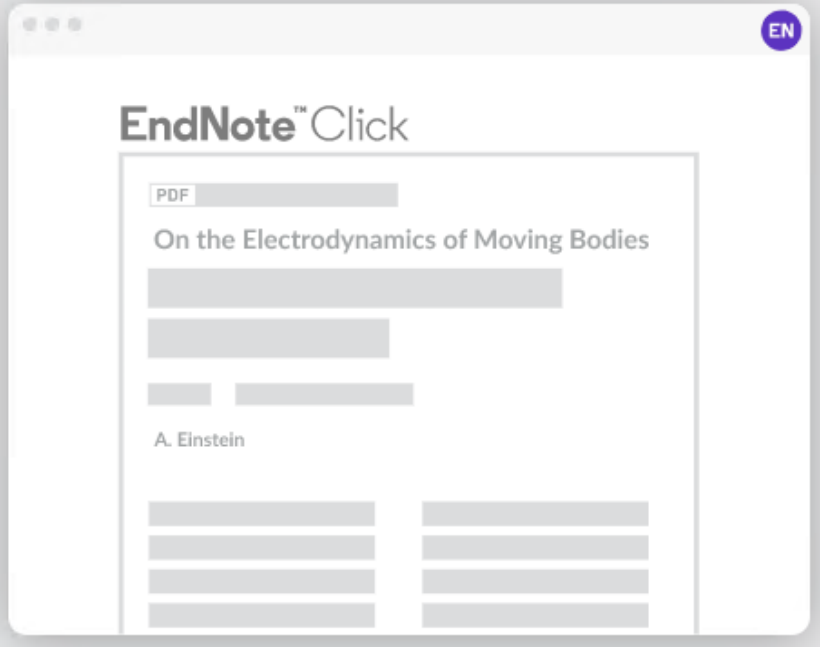

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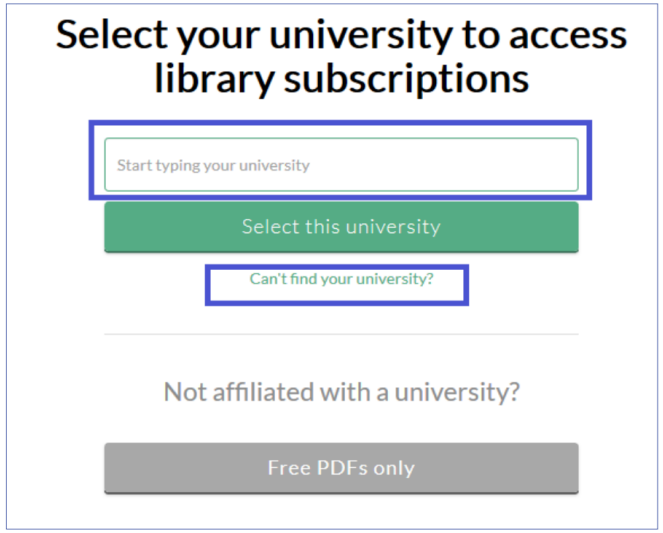
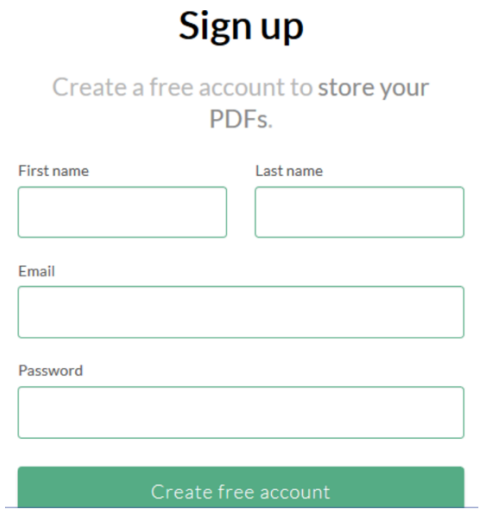
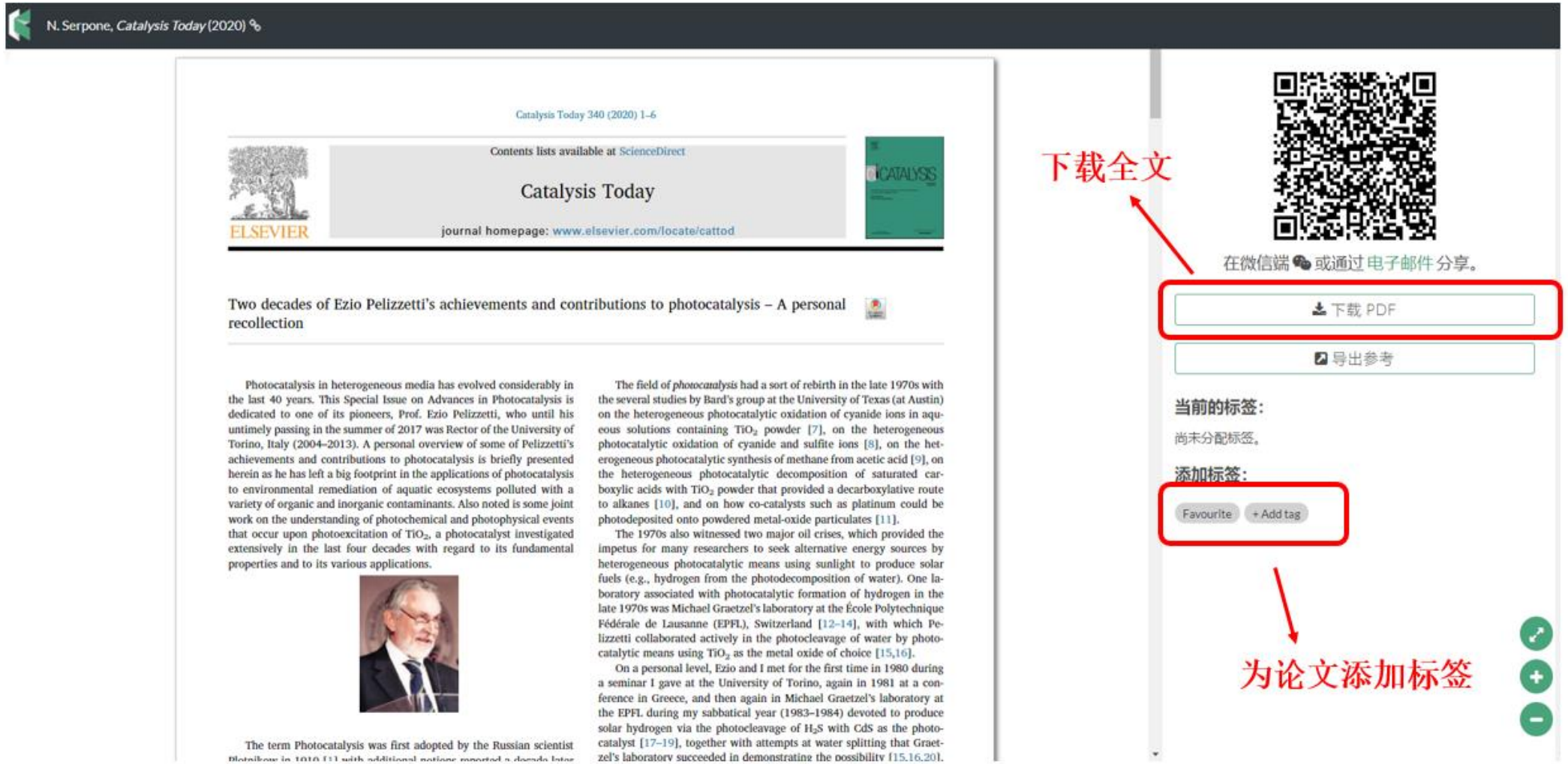


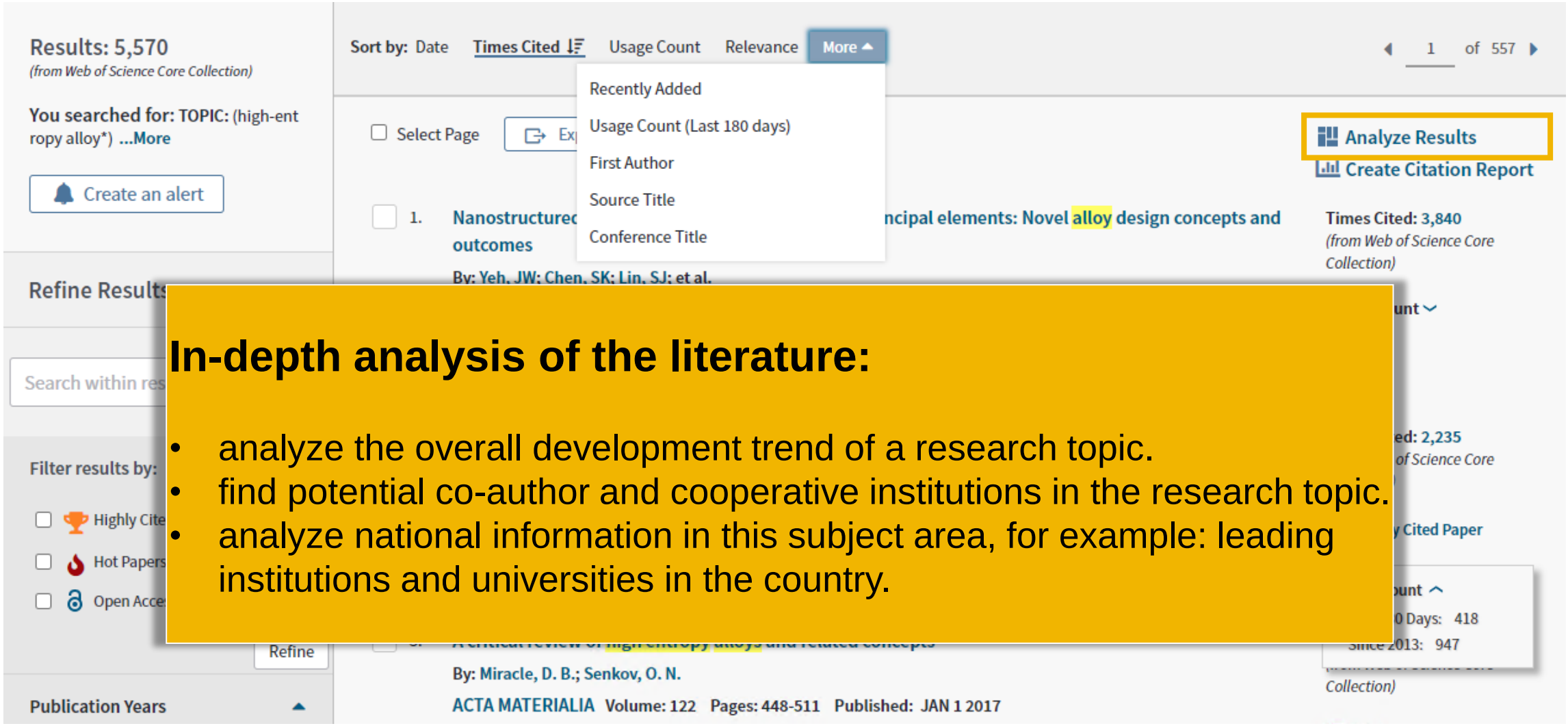
Create free account to complete the registration



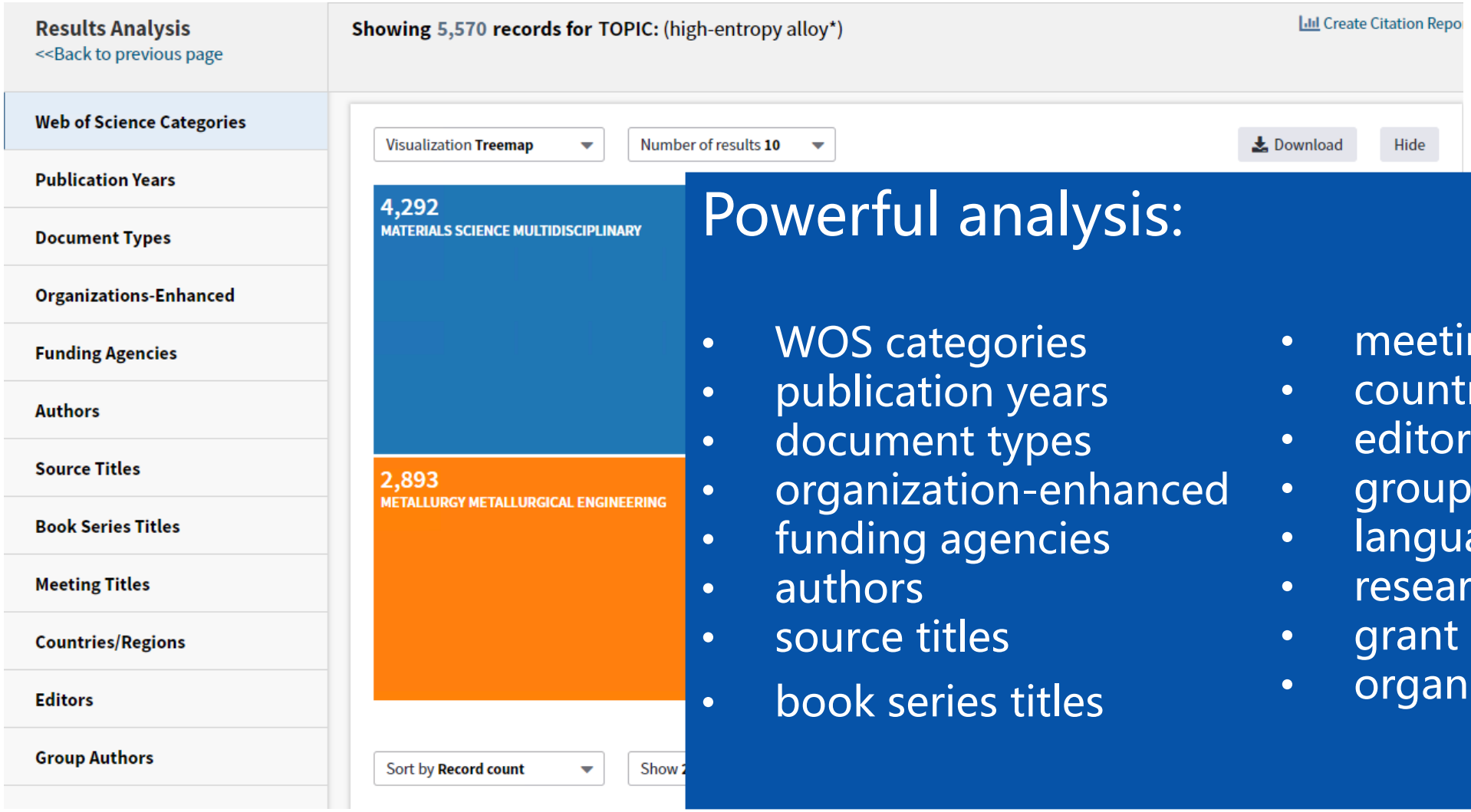
Full text acquisition tool: Kopernio



Research topic: high-entropy alloys



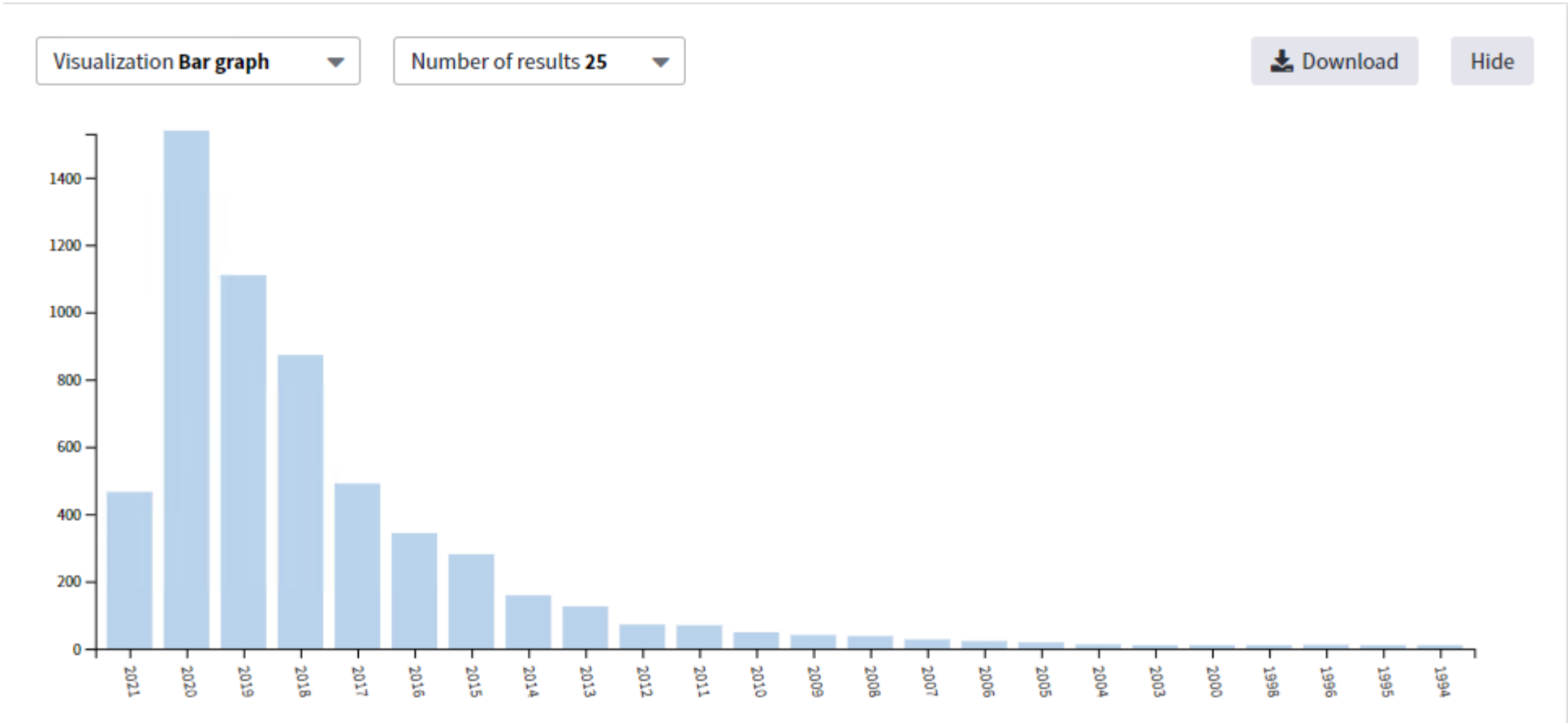
Research topic: high-entropy alloys



Powerful analysis:

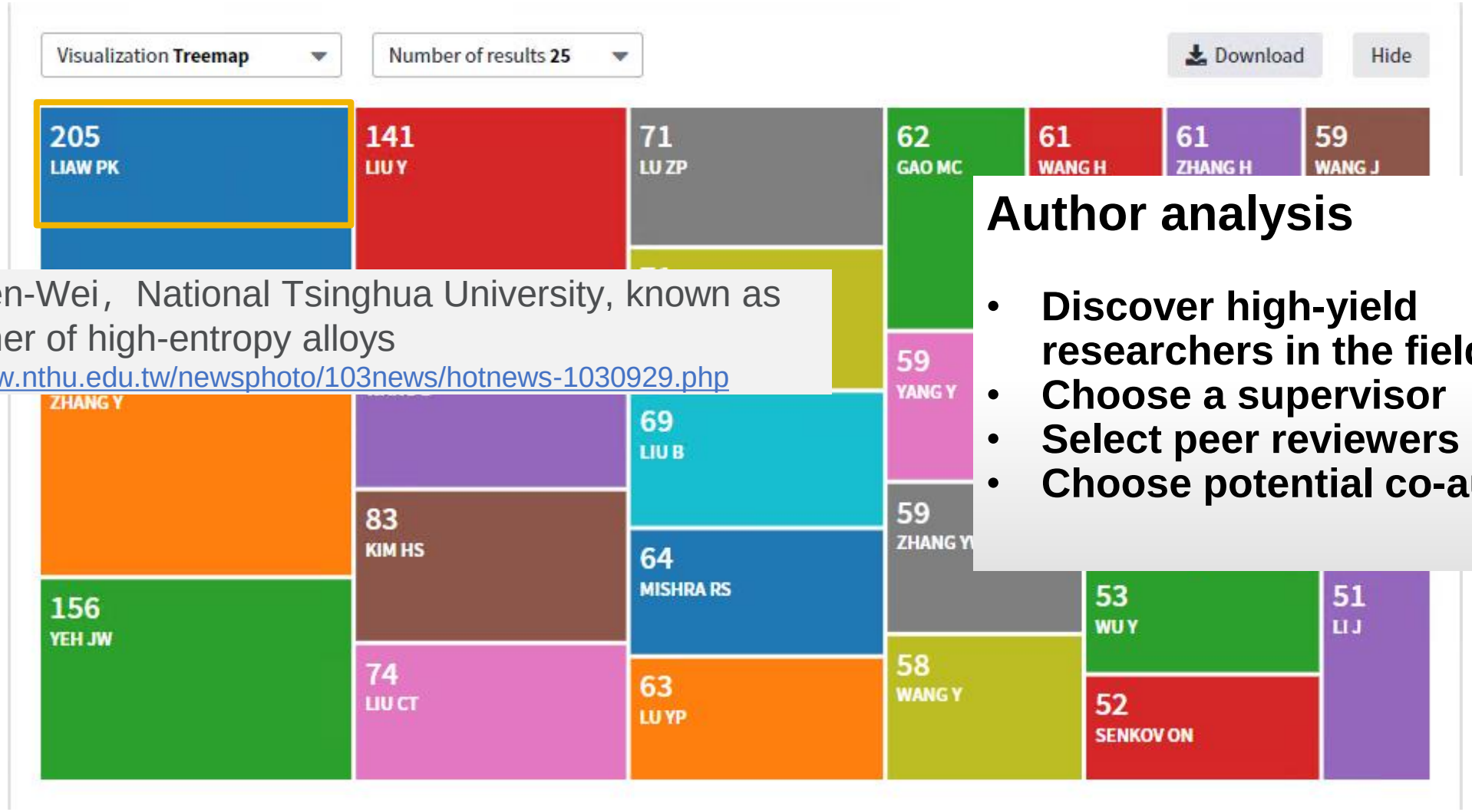
- WOS categories
- publication years
- document types
- organization-enhanced
- funding agencies
- authors
- source titles
- book series titles
- meeting titles
- countries/regions
- editors
- group authors
- languages
- research areas
- grant numbers
- organizations

Publication year analysis



Publication year analysis:
understand the development trend of the topic and judge the development stage of the topic

Author analysis

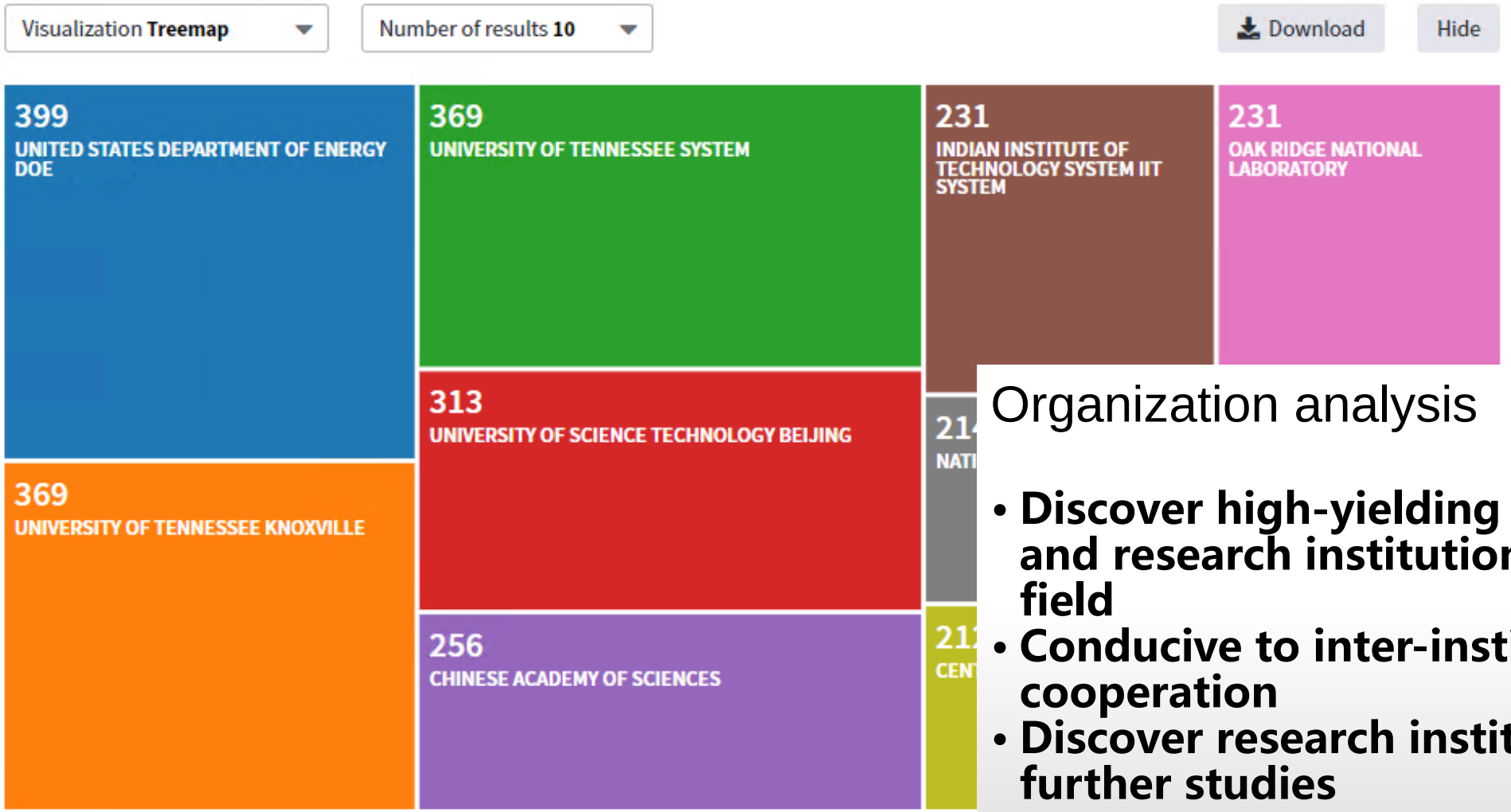


Yeh Jien-Wei，National Tsinghua University, known as the father of high-entropy alloys
http://www.nthu.edu.tw/newsphoto/103news/hotnews-1030929.php

Author analysis

- **Discover high-yield researchers in the field**
- **Choose a supervisor**
- **Select peer reviewers**
- **Choose potential co-authors**

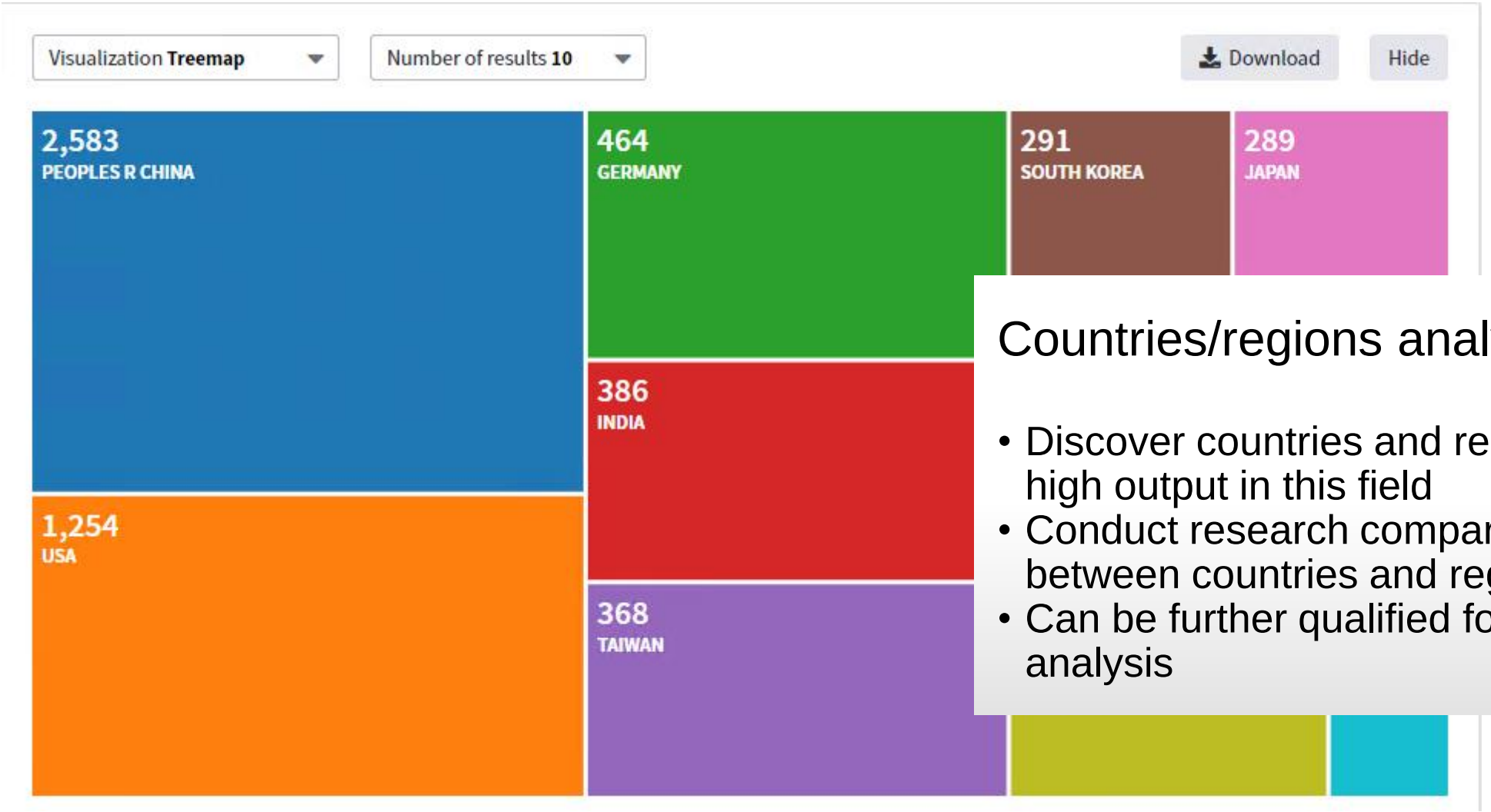
Organization analysis



Organization analysis

- **Discover high-yielding universities and research institutions in this field**
- **Conducive to inter-institutional cooperation**
- **Discover research institutions for further studies**

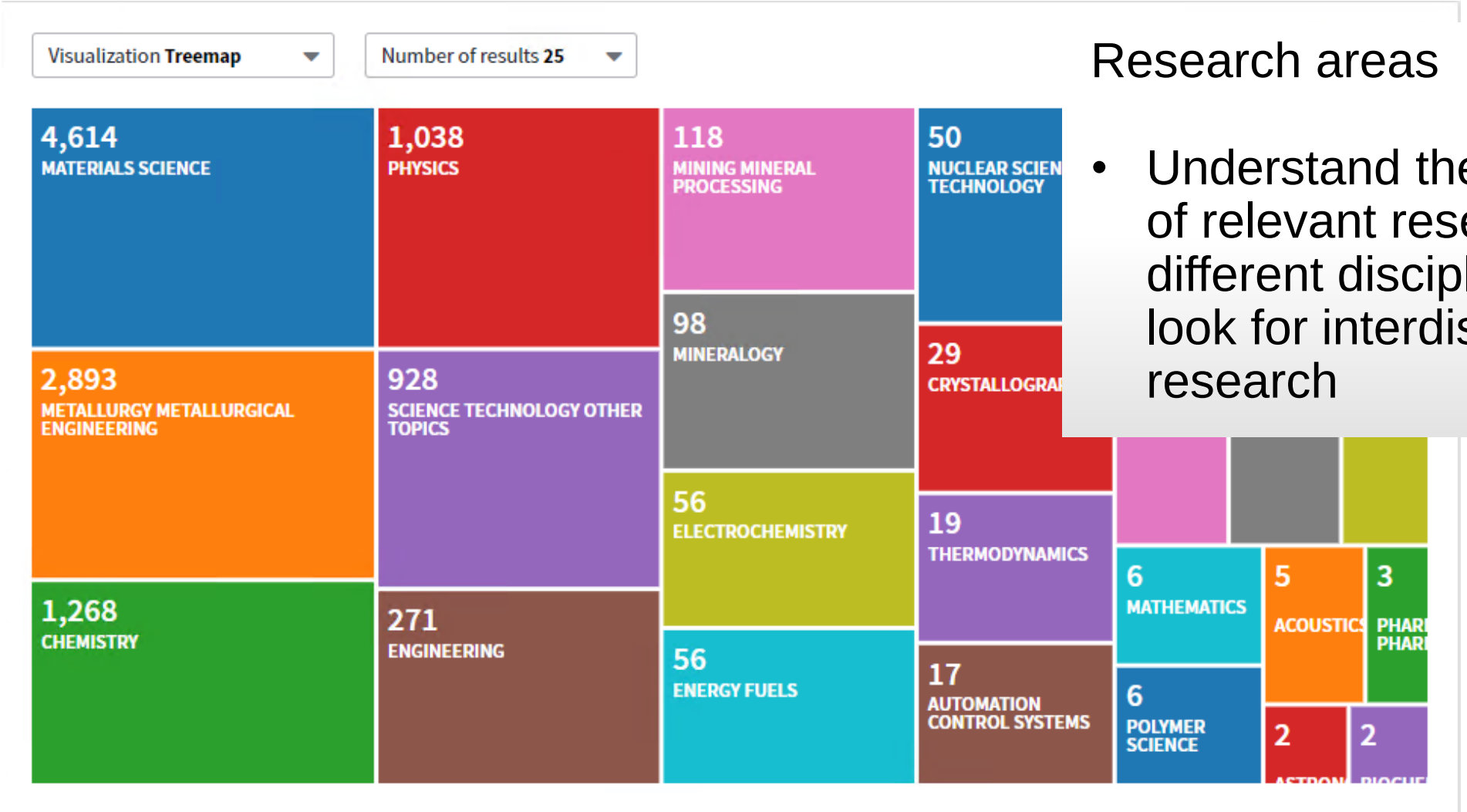
Countries/regions analysis



Countries/regions analysis

- Discover countries and regions with high output in this field
- Conduct research comparisons between countries and regions
- Can be further qualified for in-depth analysis

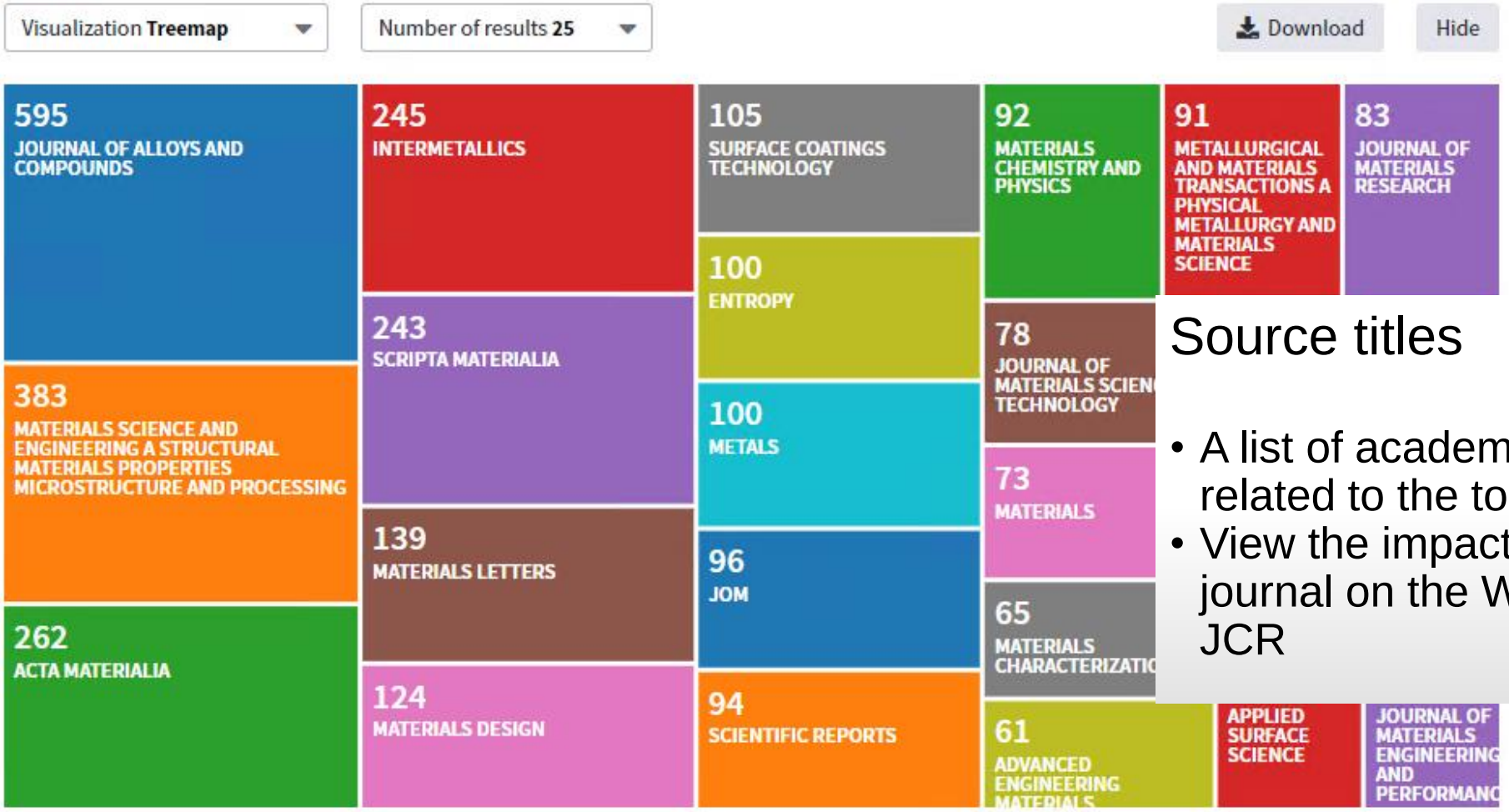
Research areas analysis



Research areas

- Understand the distribution of relevant research in different disciplines, and look for interdisciplinary research

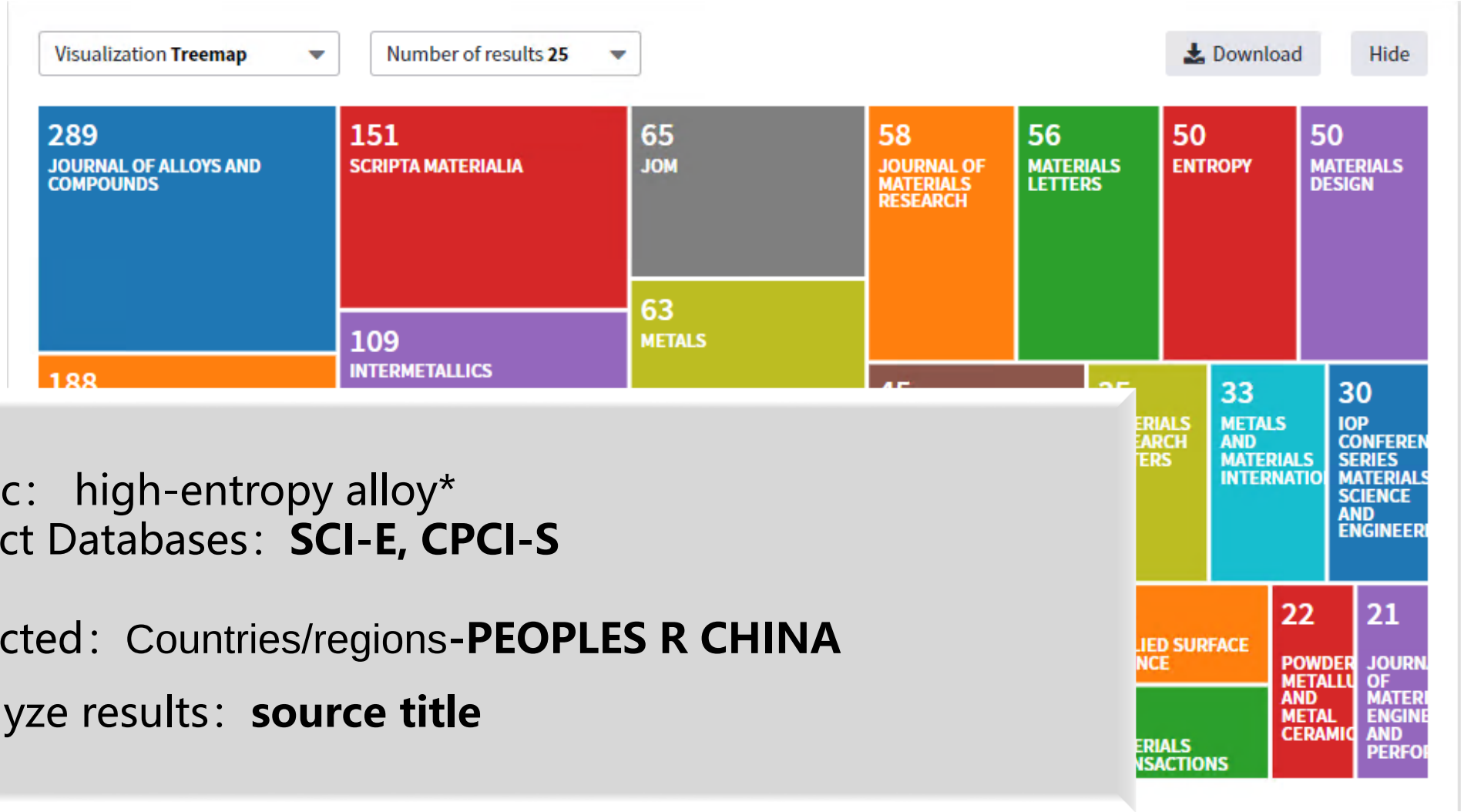
Source titles analysis



Source titles

- A list of academic journals related to the topic for reference
- View the impact factor of the journal on the WOS page and JCR

Journals that Chinese researchers tend to choose in this field



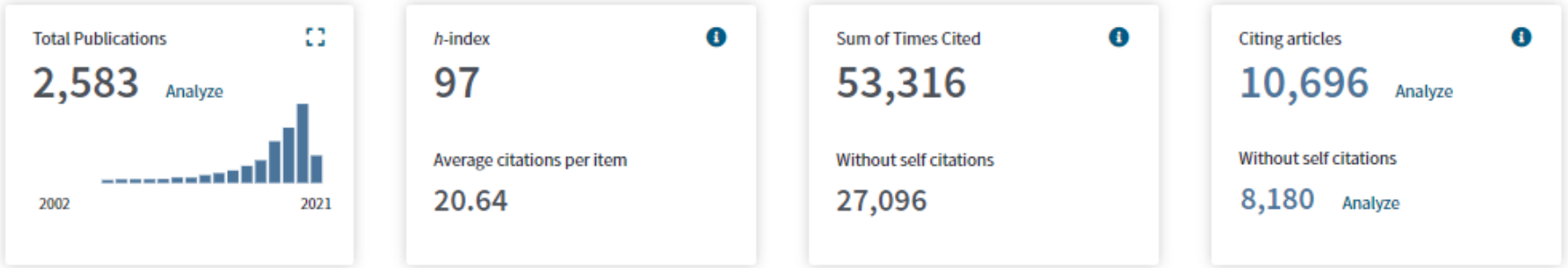
1、topic： high-entropy alloy*
Select Databases： **SCI-E, CPCI-S**

2、selected： Countries/regions-**PEOPLES R CHINA**

3、analyze results： **source title**

Research topic: high-entropy alloys

Research topic: high-entropy alloys



The citation report can help us visually analyze the overall development trend and academic influence of the subject, and reveal whether the subject is currently in a rapid rise, steady accumulation or mature stage.

Summary

Retrieval

- Quickly lock in high-impact papers and grasp the direction and trend of the topic
- Trace the context of the subject and review classic document

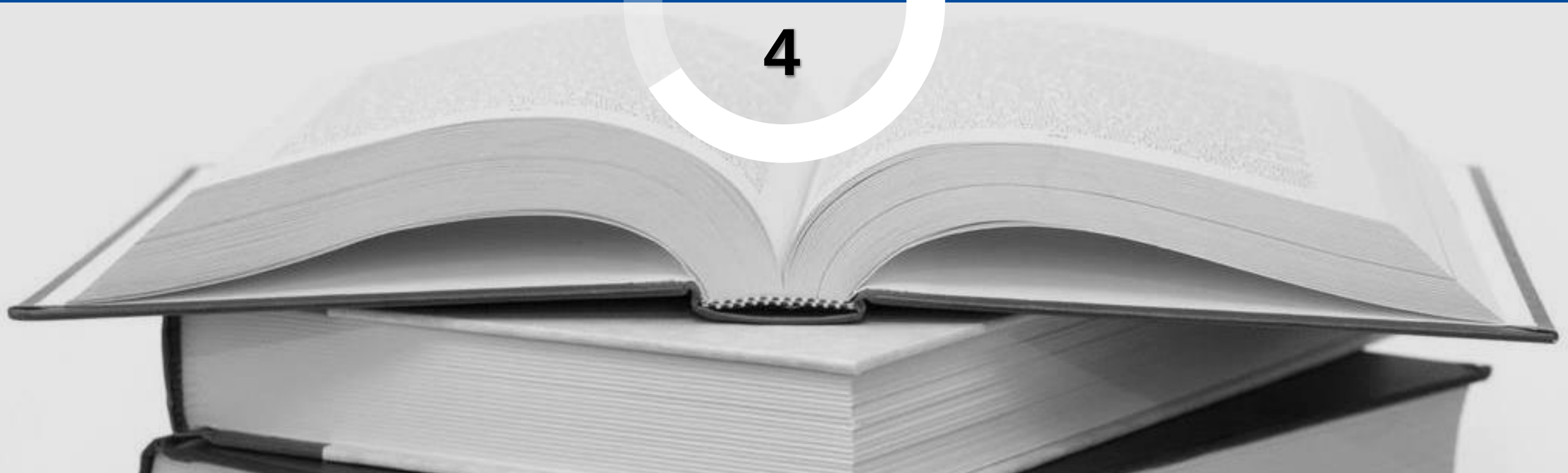
Analysis

- Comprehensive analysis of the documents and find useful information

Personalization & Other Services on WOS

Part

4



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Set up citation alerts whereby you are notified by e-mail whenever an article on your Citation Alerts list has been cited by a new article.

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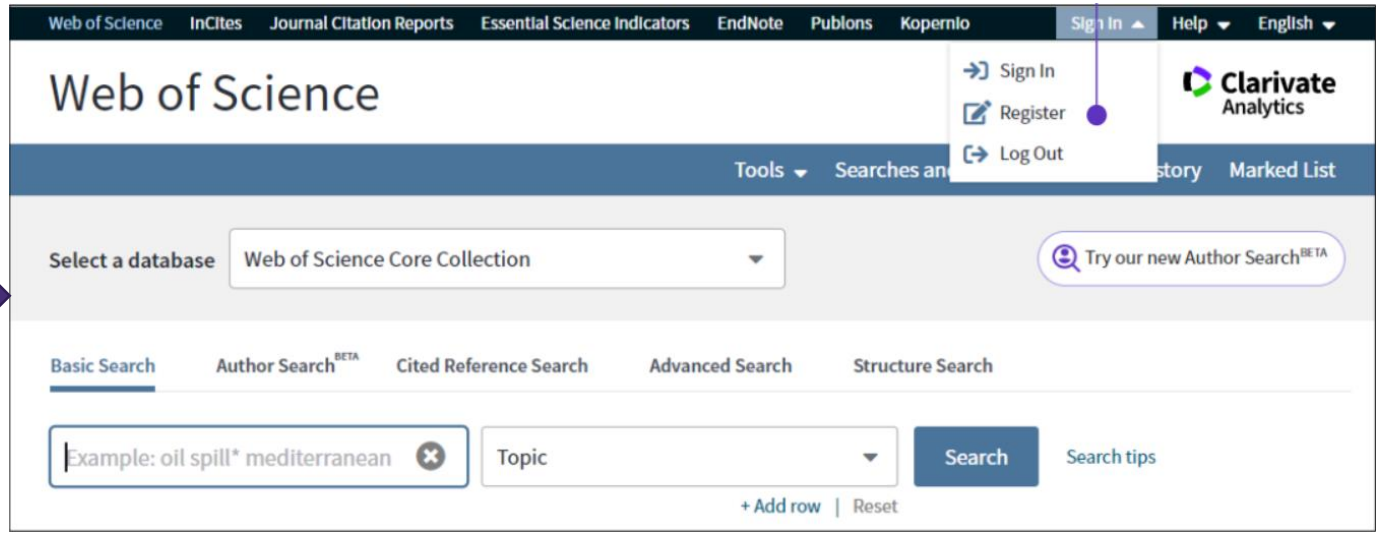

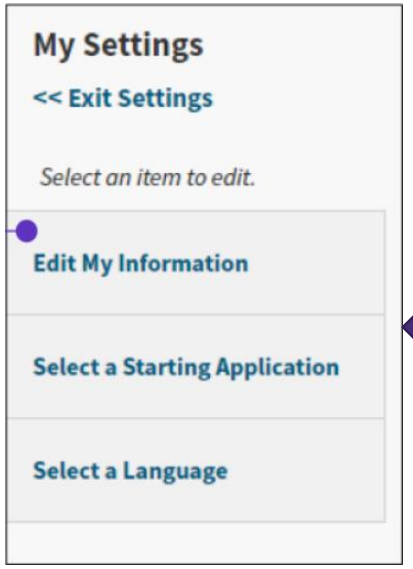

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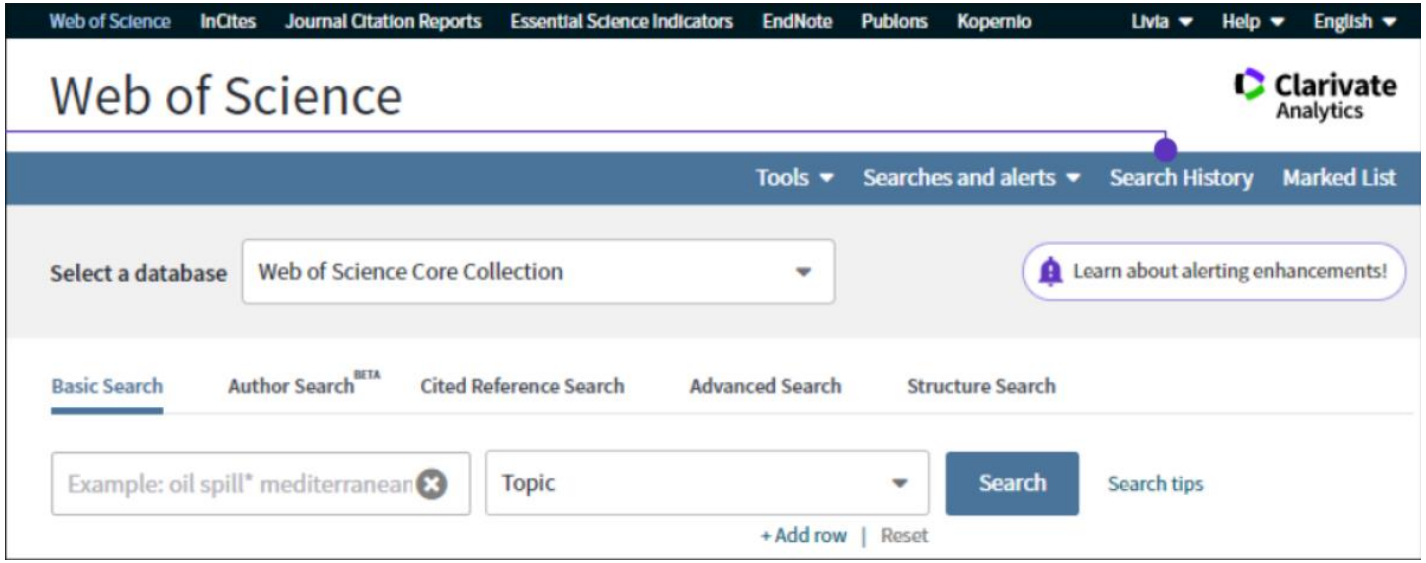
Update your contact information (e-mail address, password, and name), change your preference for automatic sign-in.

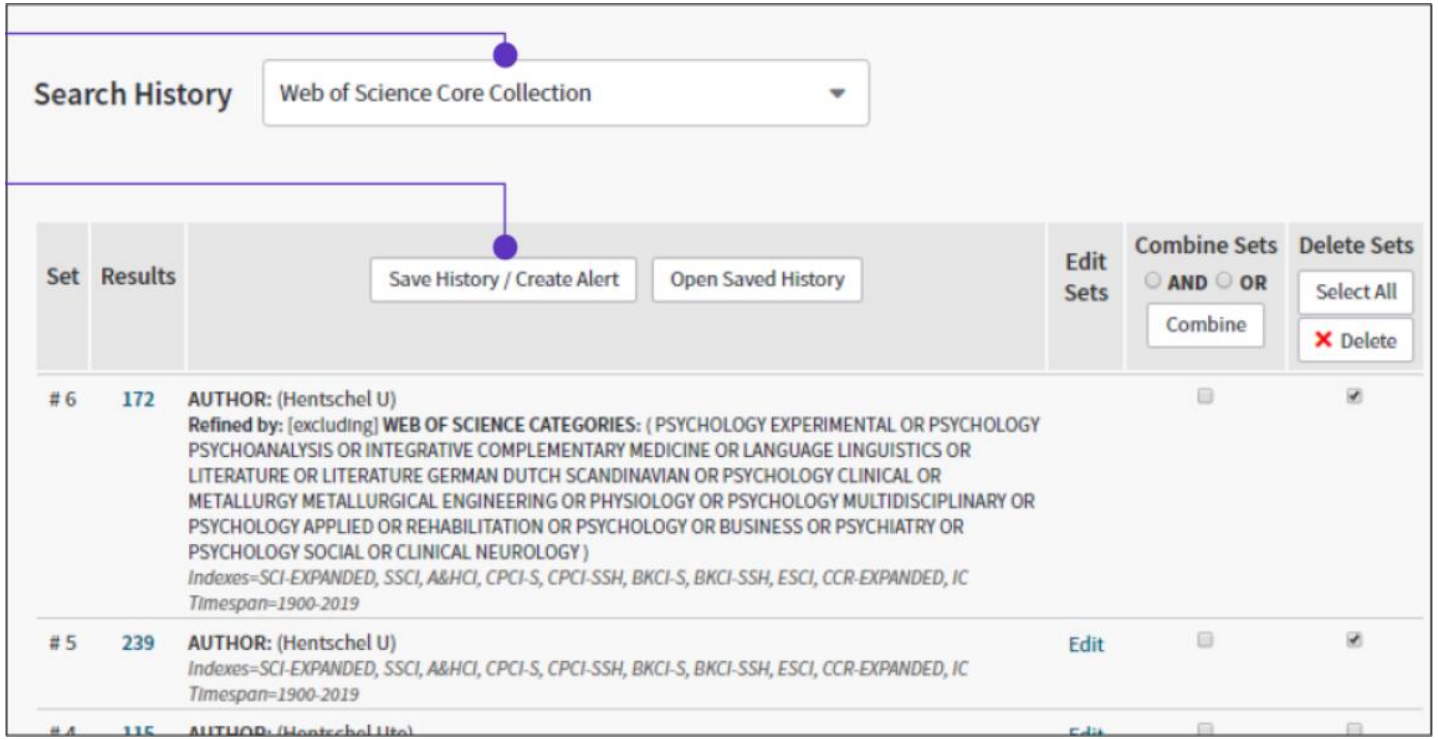
Save search history and create an alert

A search history is a search query or multiple search queries that you save to the server or to your computer. There is no limit to the number of search histories you can save. To save a search history to the server, you must be a registered user and you must sign in.



1. From the Web of Science homepage click Search history.

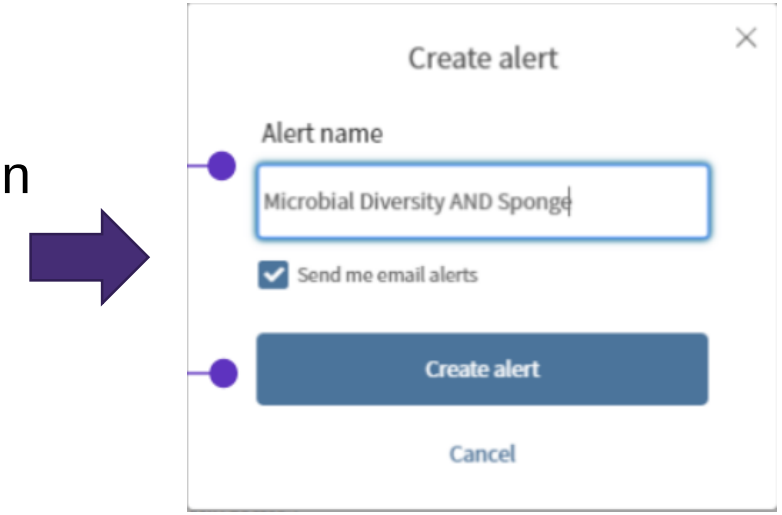
Save your search history and create an alert



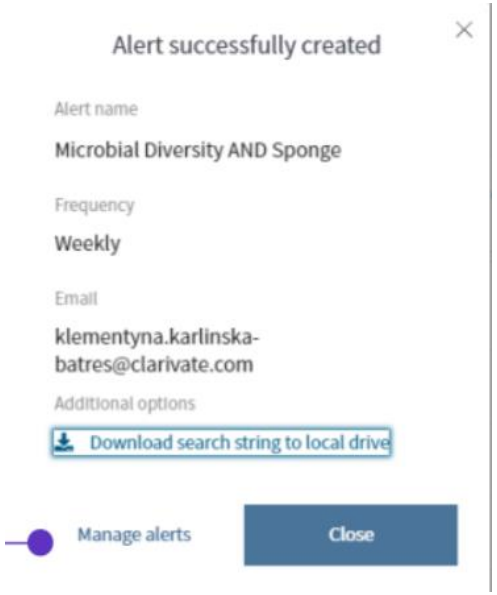
2. Choose the application to check the searches we performed during the current session in the database.
3. Click Save History / Create Alert button to save the search.

Save your search history and create an alert

4. In the Create alert window, type a name for the search.
- Send me email alerts is selected by default.
- If we select Send me email alerts, we only receive alerts when the system adds new results to our search.



5. Click Create alert button to save the search.

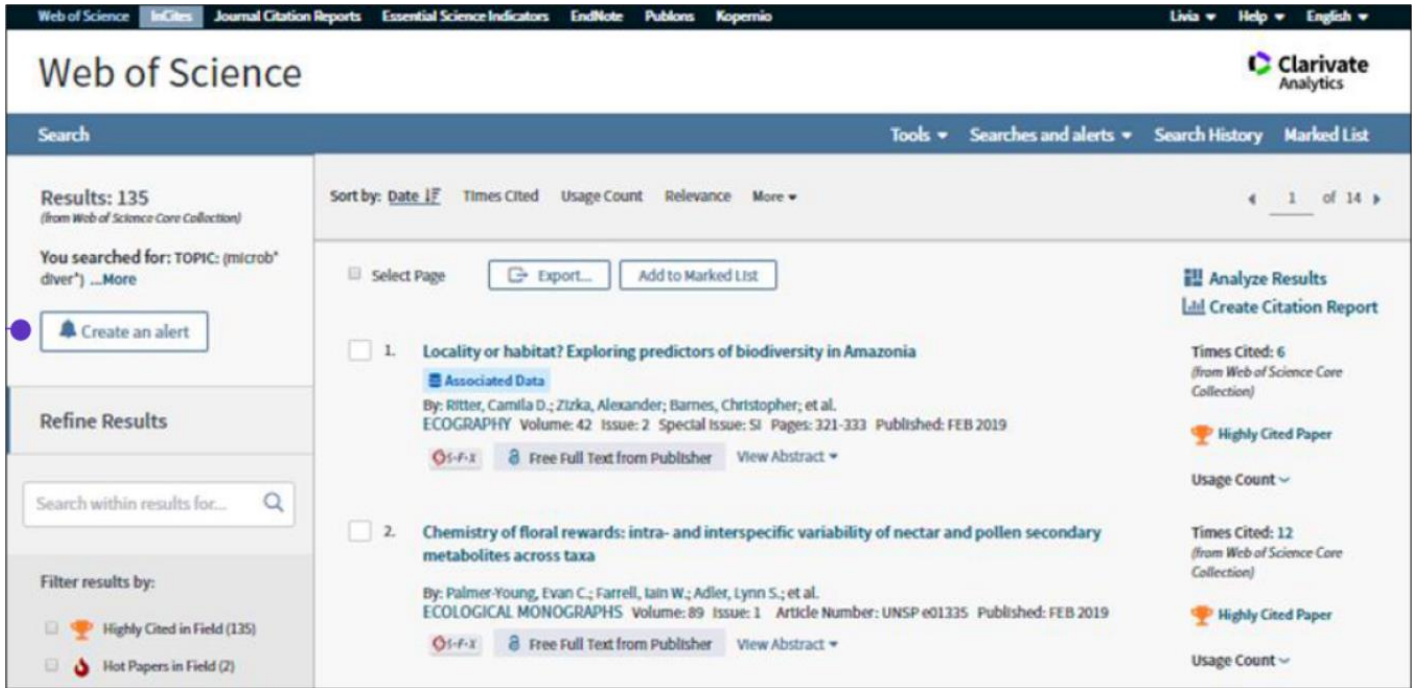


6. We will see an Alert successfully created confirmation window with an Alert Name, Frequency of the alert, and our email address. Click Manage Alerts to go to our Saved searches and alerts to change the settings of our alerts.

Set up a search alert

From each Result page we can save search to our profile as a Saved Search alert.

1. Click the Create Alert button to save the search.

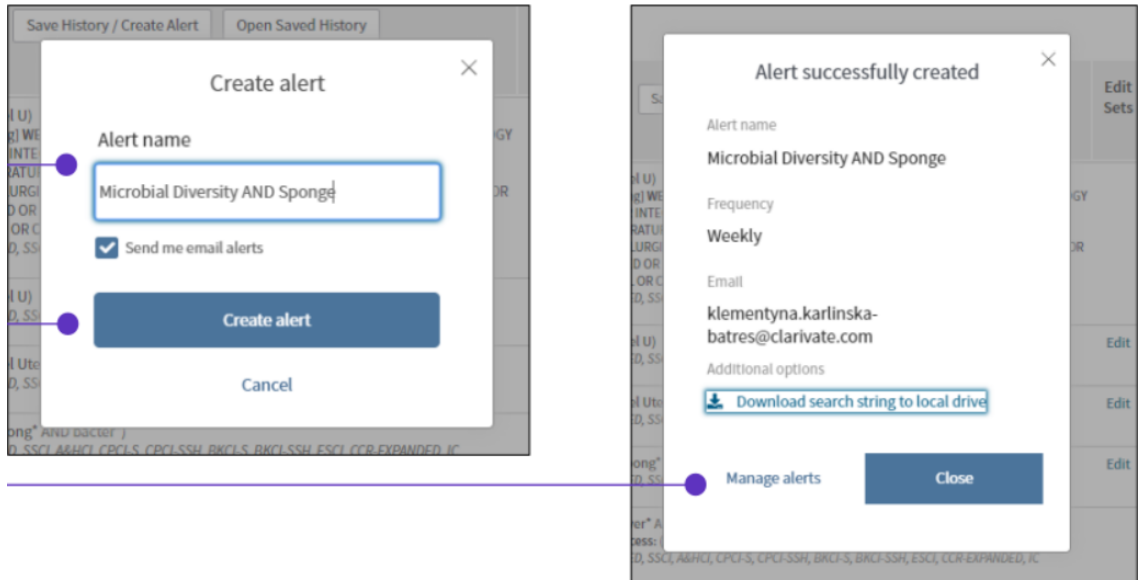


Set up a search alert

2. In the Create alert window type a name for our search.

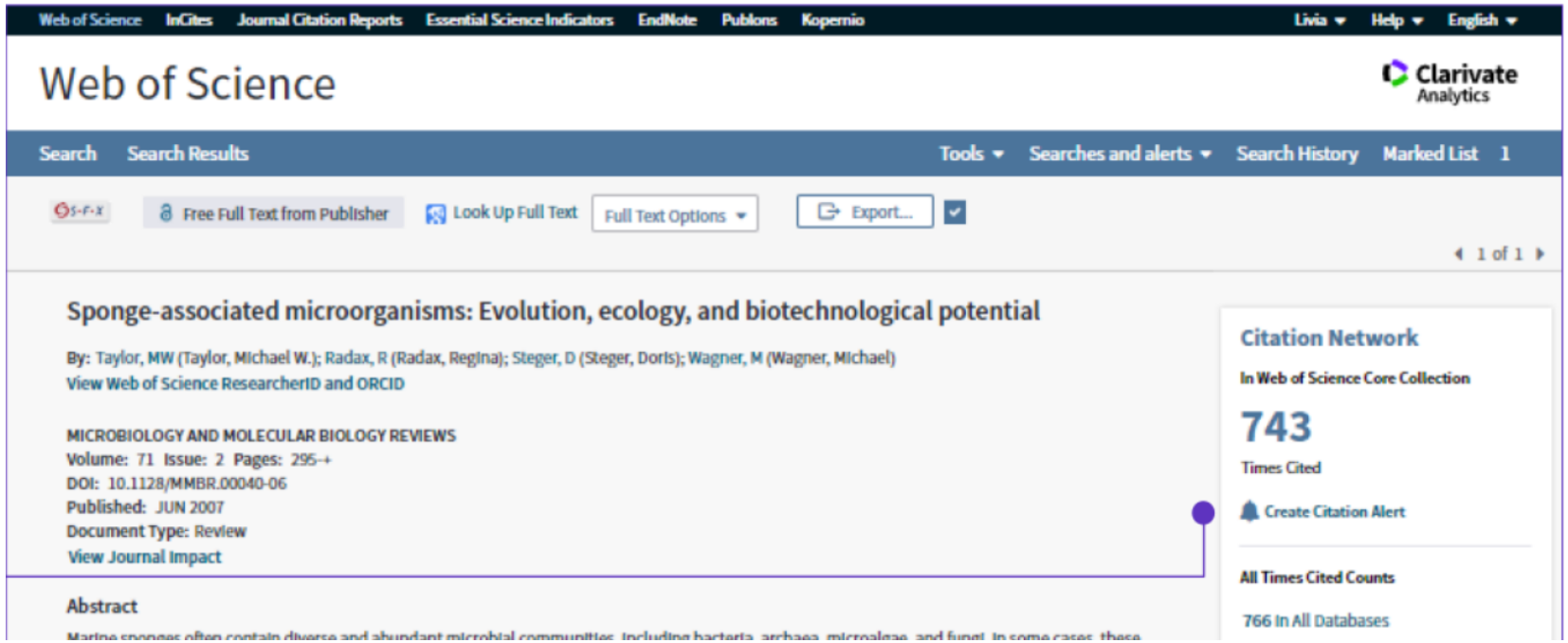
3. Click Create alert button to save the search.

4. we will see an Alert successfully created confirmation window with an Alert Name, Frequency of the alert, and our email address.



Set up a citation alert

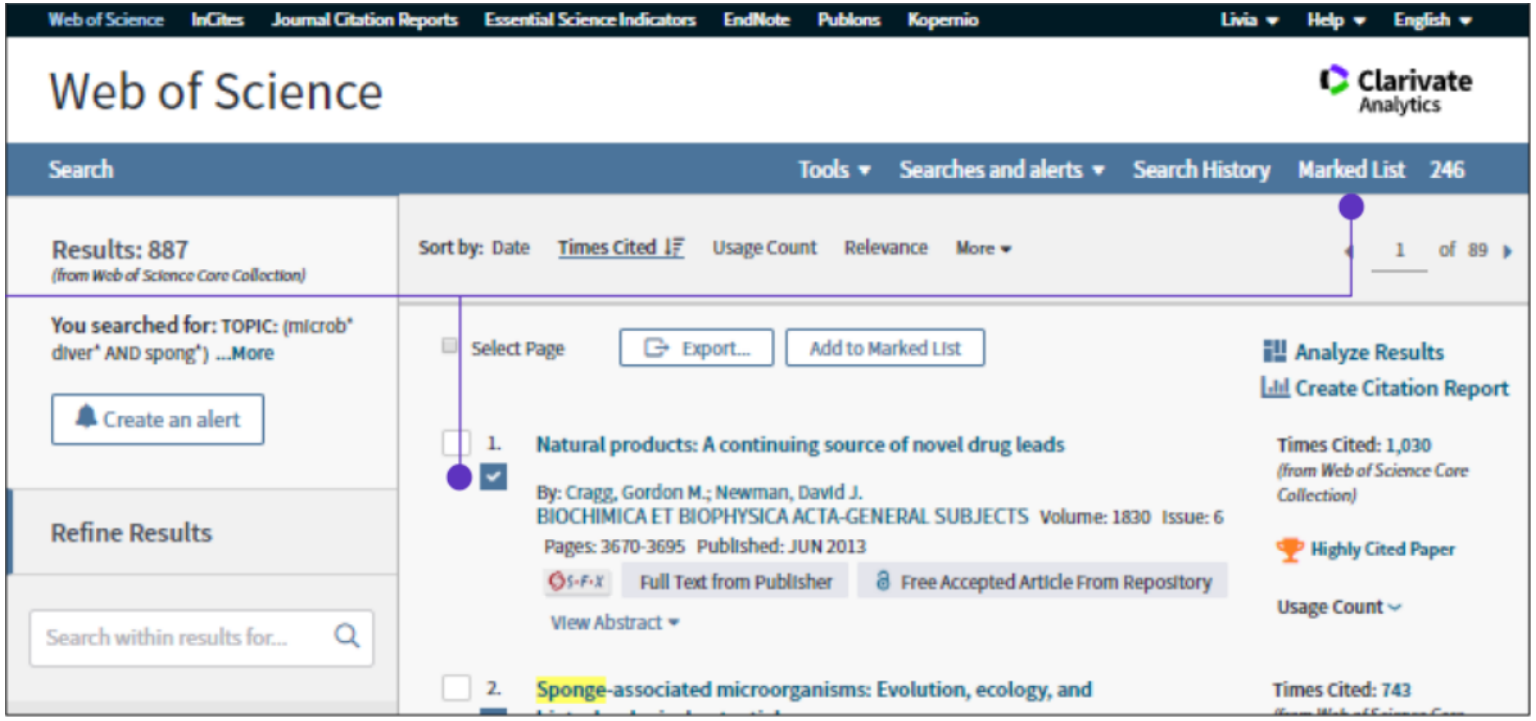
we can stay informed about recently published research and see who is citing our work. For each publication in the Web of Science Core Collection,we can set a citation alert from the Full Record page. A citation alert emails us whenever a document we specify is cited by a new article added to the database.



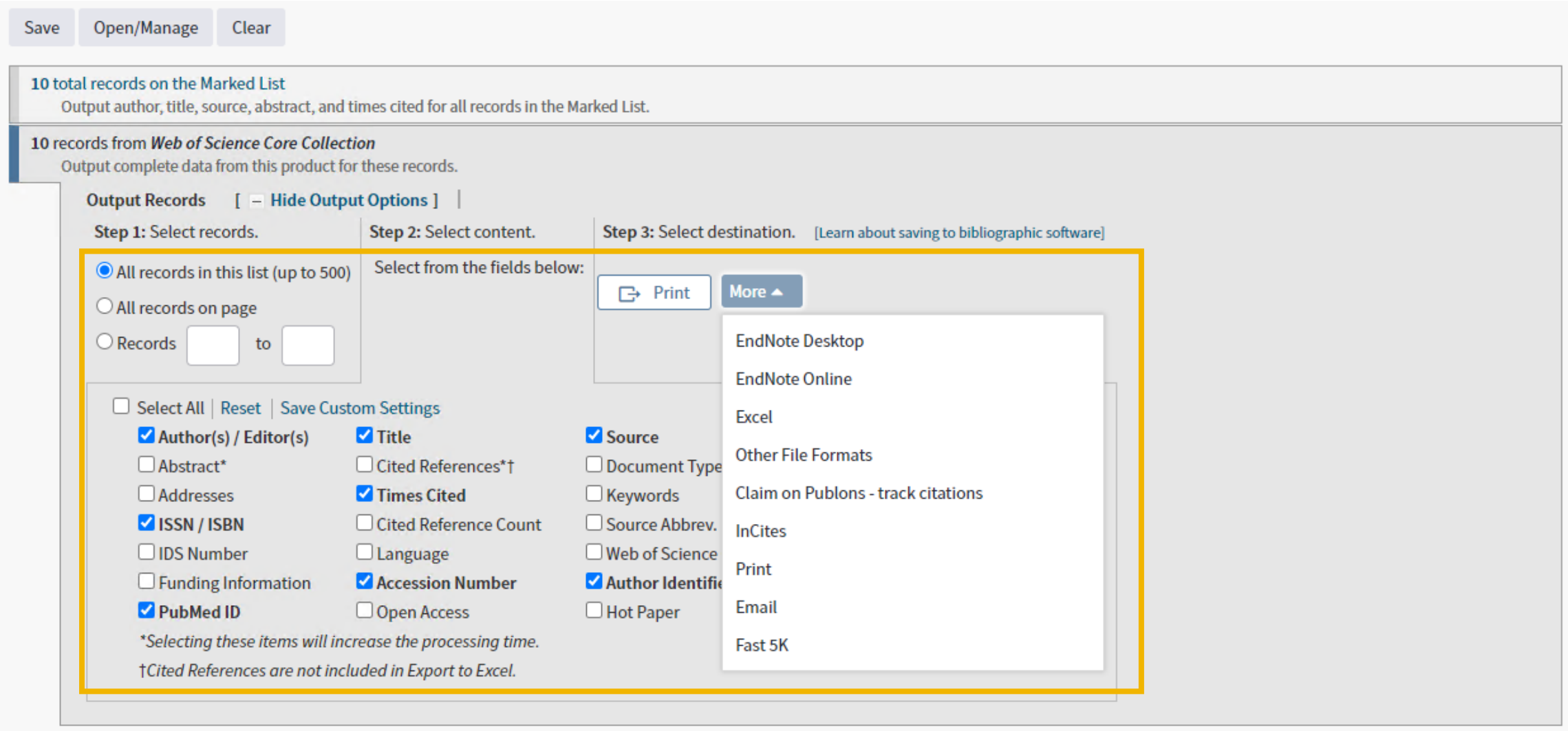
Save a Marked list

Users who are registered and signed in can save up to 50 marked lists, each containing up to 50,000 records.

Search the database and select records that you wish to add to the Marked List. A Marked List cannot be saved unless you sign in.



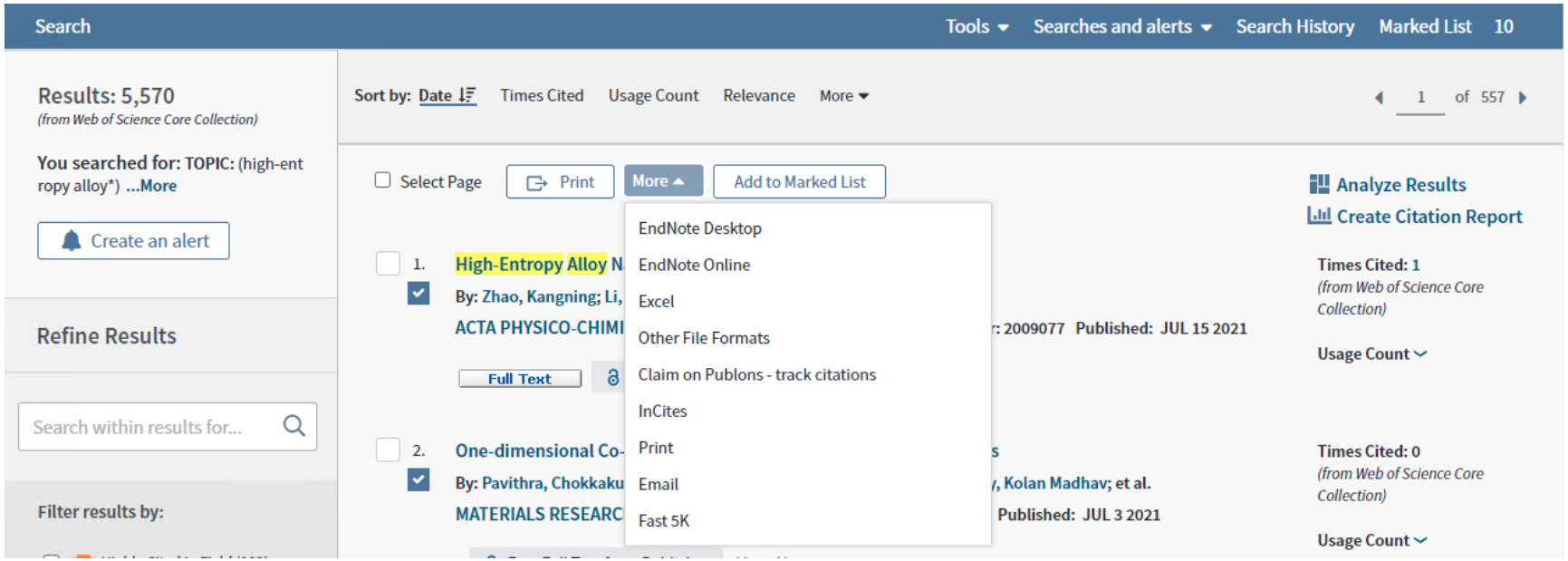
Save a Marked list



Save references to your EndNote online library

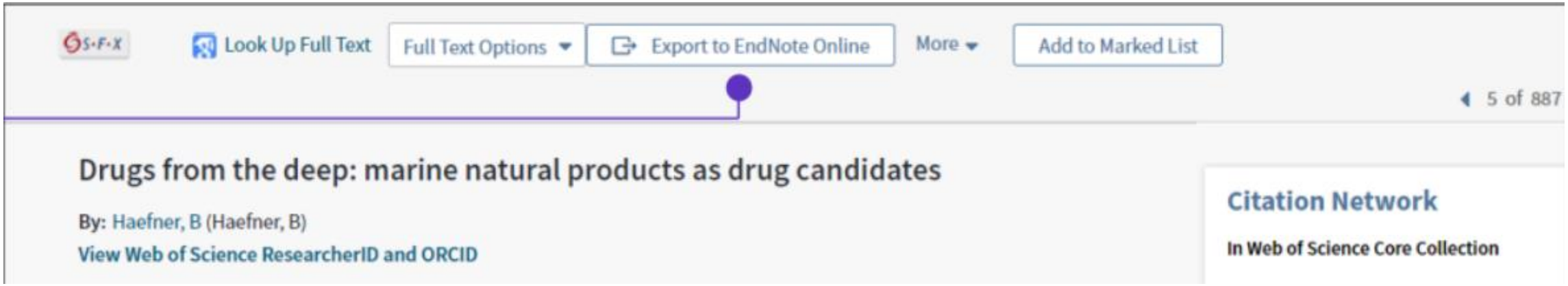
This feature allows you to export records to your EndNote library.

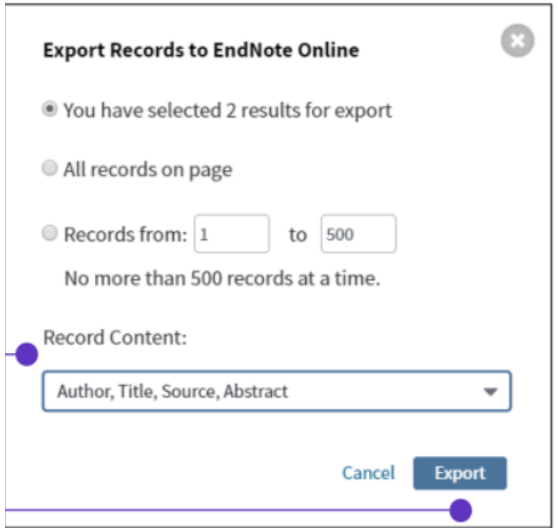
Select the records to include in the output. Click Export and select Save to EndNote Online from the menu to save selected records to your online library in EndNote. If you have not yet created a library, clicking this button will automatically create one for you.



Save references to your EndNote online library

You can also add record to the EndNote online from the full record page.

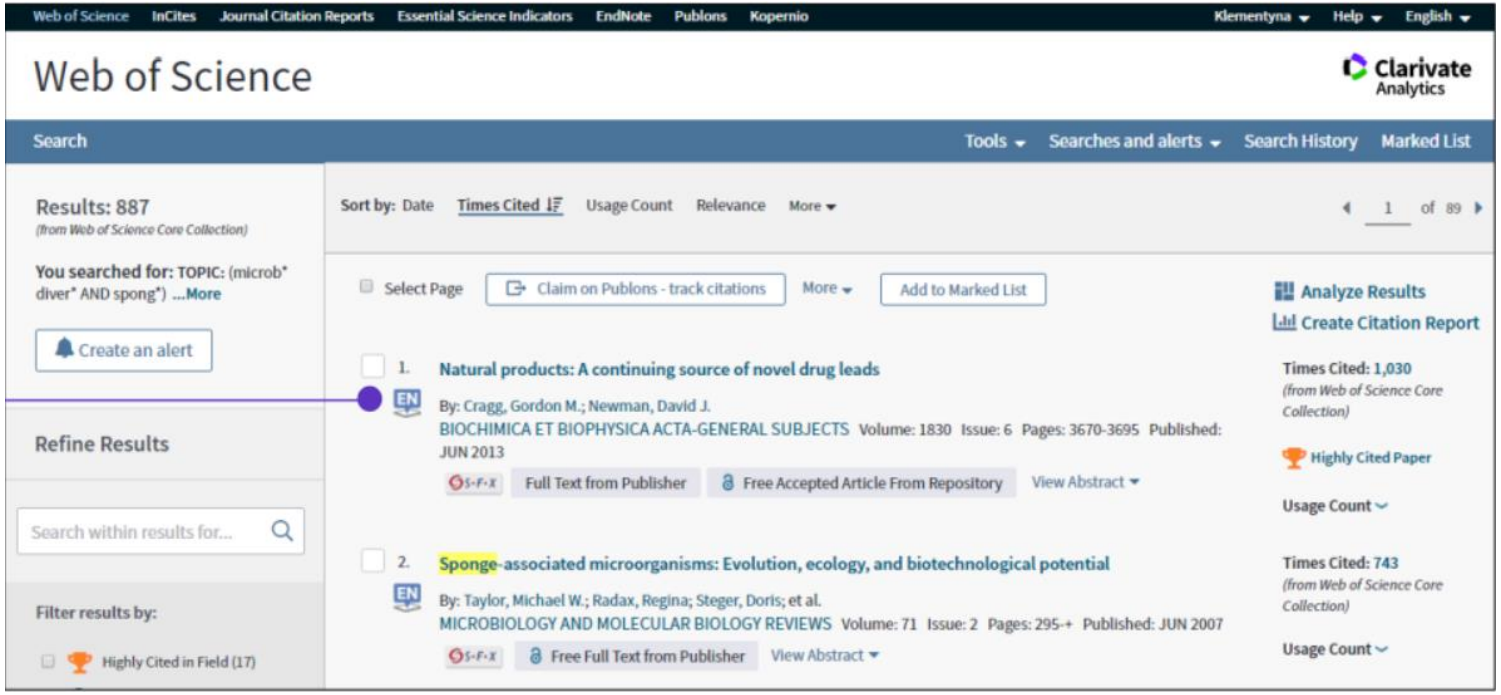




- Select the data to include in each record.
- Click Export button to your EndNote online library.

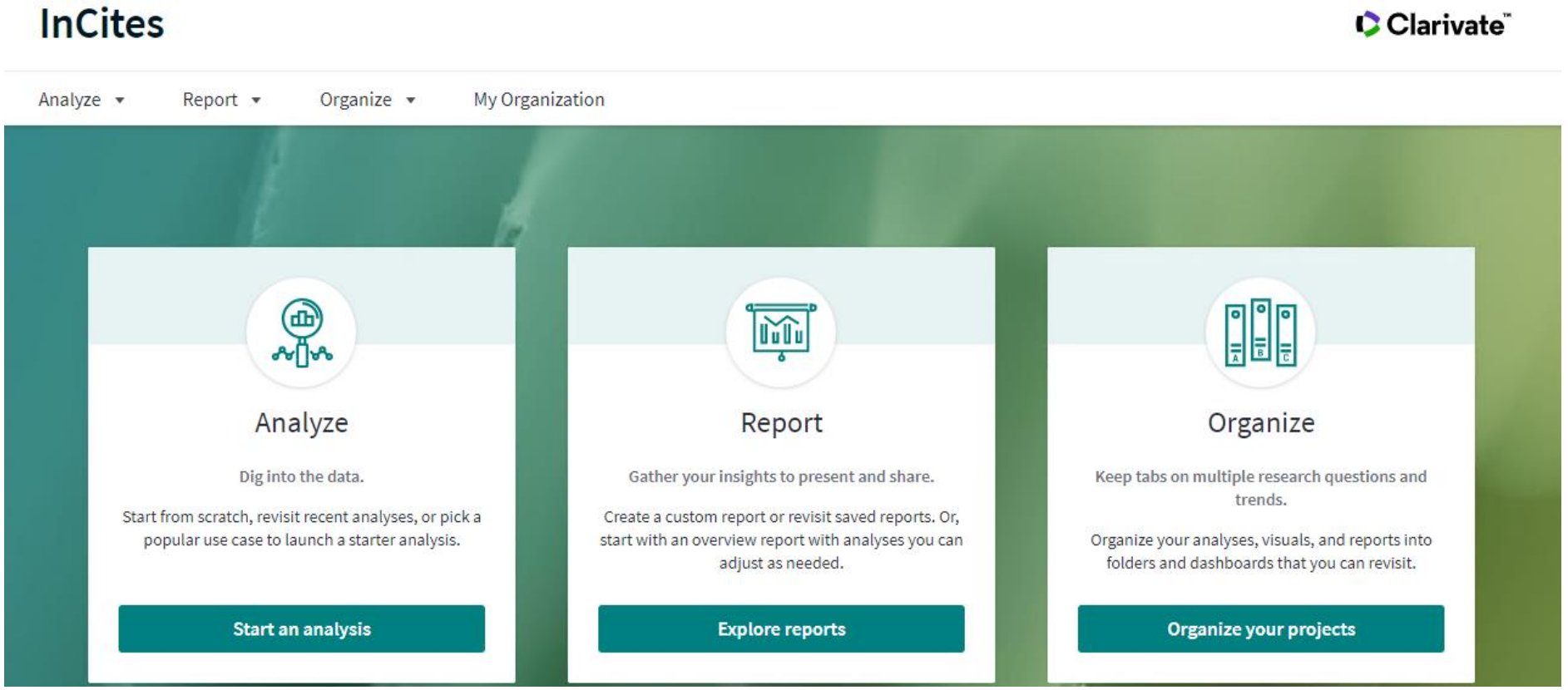
Save references to your EndNote online library

After the record are exported, the result page will reload, and you will see EndNote icons next to the records added to the EndNote library. You will see the EndNote icon also in the full record. Every time you sign in, you will see the EndNote icons for the records added to your EndNote library.



InCites

InCites is a citation-based evaluation tool for academic and government administrators to analyze institutional productivity and benchmark output against peers and aspirational peers nationally, and internationally.



Journal Citation Reports

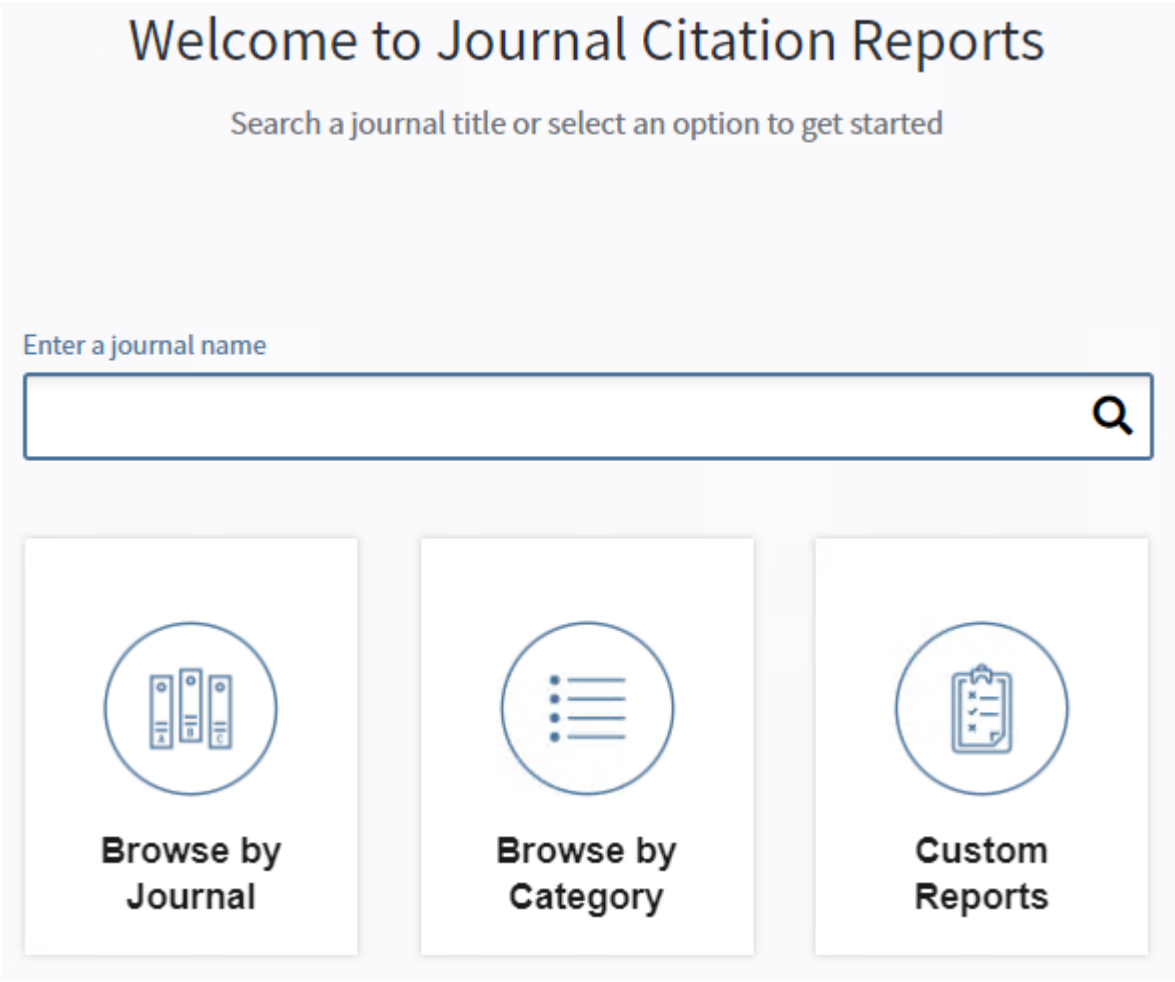
Journal Citation Reports aggregates the meaningful connections of citations created by the research community and analysis of the world's most impactful journals included in the SCIE and SSCI.

Two Editions

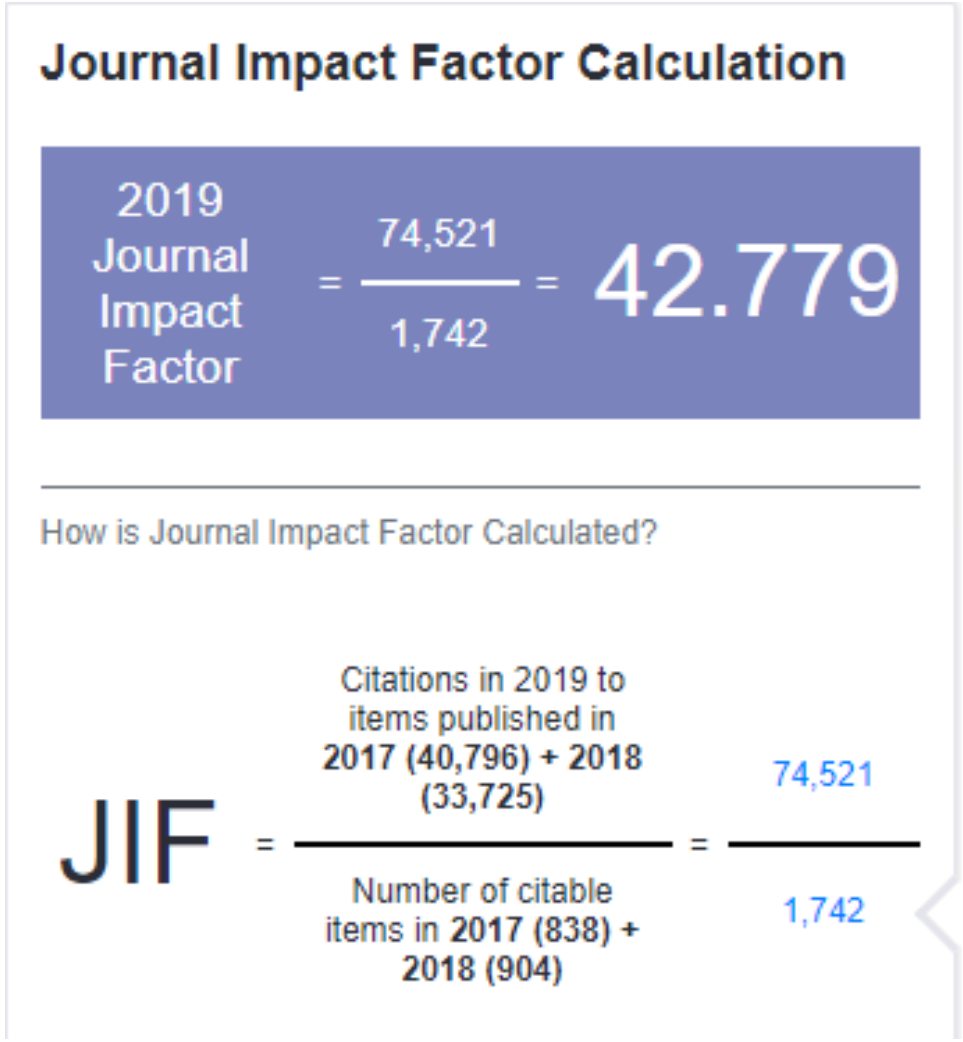
- JCR Science Edition
- JCR Social Sciences Edition

Journal Profile

- Impact Factor
- source data
- rank
- Key Indicators
- ……



Journal Citation Reports



Journal Impact Factor of NATURE

- The calculation of impact factor only involves two types of documents: Article and Review
- Only journals that have been included in Web of Science® for 3 years will have an impact factor
- The publication cycle of Impact Factor is once a year, and the impact factor data of the previous year is updated in June and July each year

Essential Science Indicators

Essential Science Indicators (ESI) is an analytical tool that helps identify top-performing research in Web of Science Core Collection.

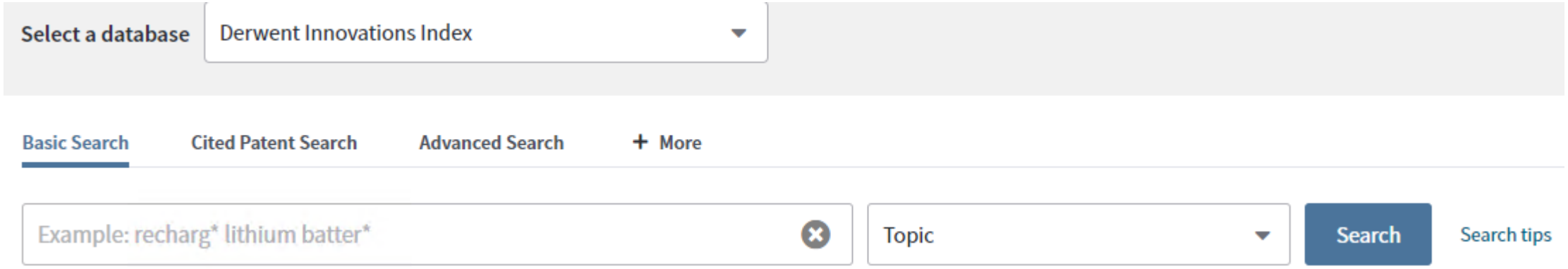
ESI surveys more than 11,000 journals from around the world to rank authors, institutions, countries, and journals in 22 broad fields based on publication and citation performance. Data covers a rolling 10-year period and includes bimonthly updates to rankings and citation counts.

- Examine the research performance of top-ranking institutions, countries, journals, authors, and papers in each of the 22 research fields in Essential Science Indicators.
- Compare the citation performance of a paper with that of its peers by both publication period and field.
- Identify trends and emerging areas of research in the sciences and social sciences.

Derwent Innovations Index

Combines unique value-added patent information indexed from over 50 patent issuing authorities in the Derwent World Patent Index (1963-present) with patent citations indexed from the Derwent Patents Citation Index (1973-present).

- Search across clearly written patent titles and abstracts that highlight the novelty, use, advantage, and claims of each invention.
- Search precisely using international patent classification codes or unique Derwent Class Codes.
- Combines patents from multiple patent issuing authorities into a single patent family for easy and complete discovery of each invention.
- Monitor an invention's influence by navigating patent citations.



Visit Web of Science off campus

Staff and students of the university can pass Shibboleth certification to achieve off-campus access to the following databases.

For detailed introduction, please refer to the library WeChat article:

《我校开通CARSI联盟全部学术文献资源校外统一认证访问》

databases	Shibboleth/WAYFless
SCI / SSCI	https://apps.webofknowledge.com
CPCI	https://apps.webofknowledge.com
DII	https://apps.webofknowledge.com
ESI	https://esi.clarivate.com
InCites	https://incites.clarivate.com
JCR	https://jcr.clarivate.com

2020 Research frontier

In November 2020, the CAS Science and Technology Strategy Consulting Research Institute, the CAS Document Information Center and Clarivate Analytics jointly released the "2020 Research Frontiers" report and the "2020 Research Frontier Heat Index" reports to the world.

"Research Frontiers 2020" selects 110 hot frontiers and 38 emerging frontiers that are relatively active or rapidly developing from 11 highly aggregated university disciplines, which more objectively reflects the development trend of related disciplines.

The "2020 Research Frontier Heat Index" assesses the degree of research activity in these frontier directions of major countries in the world.

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谢谢

Li Chen
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