



Using databases

Databases are online collections of academic journal articles, conference papers and other research publications. They're designed to help people undertake literature reviews, and offer a range of powerful search features. They also give you options to save and export your results (eg to Endnote and bibTeX).

The University Library subscribes to many specialist subject databases. Useful databases for Physics & Astronomy include:

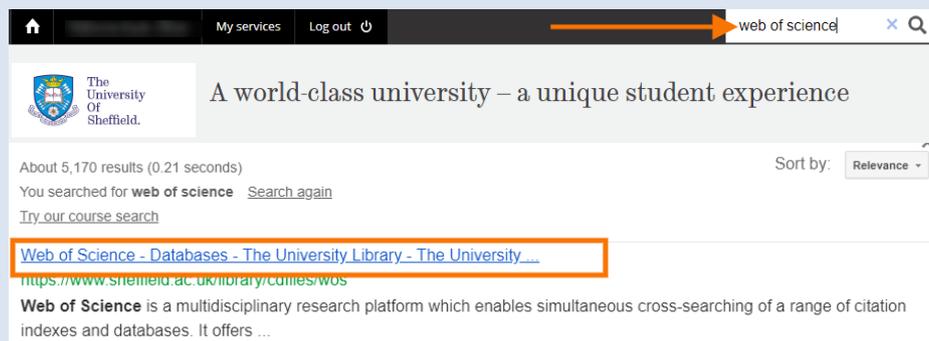
Web of Science
Scopus
Dimensions
arXiv

You can find out more about databases and literature searching on the Library's guide for Physics & Astronomy: <https://www.sheffield.ac.uk/library/idlt/subject/physicsastronomy>

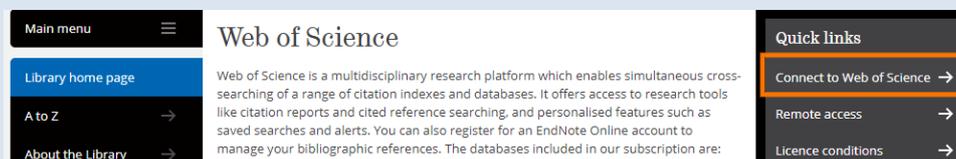
Web of Science

You can use Web of Science to search thousands of journals, conference papers, patents, datasets and book chapters from all academic fields including science, engineering and medicine. It covers more content than StarPlus and offers more sophisticated search options than Google Scholar, so it's good for doing a thorough, precise search of the literature.

You can search for Web of Science (or any other database we subscribe to) on the University webpages...

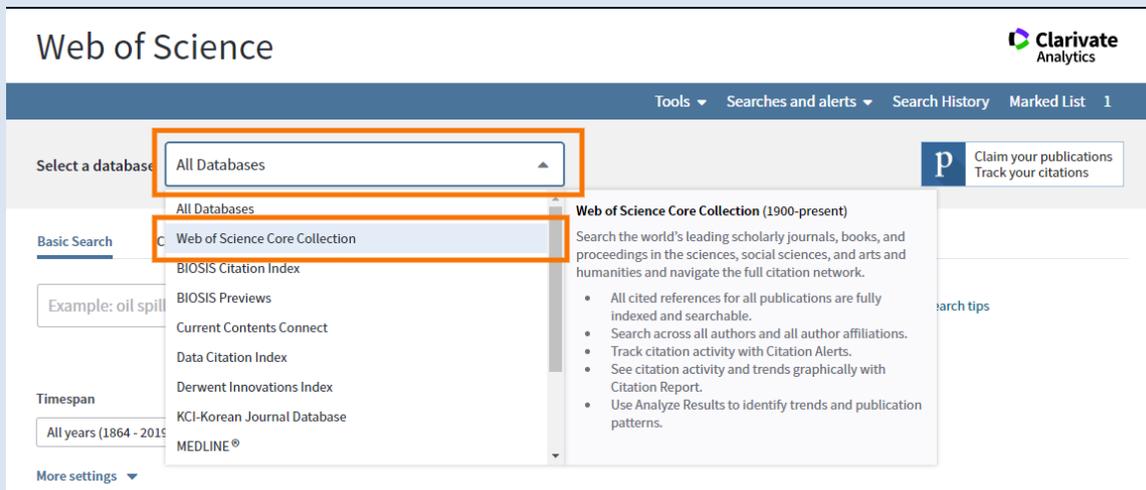


This should open a web page with some information about Web of Science and training materials to help you use it. Click **Connect to Web of Science**.

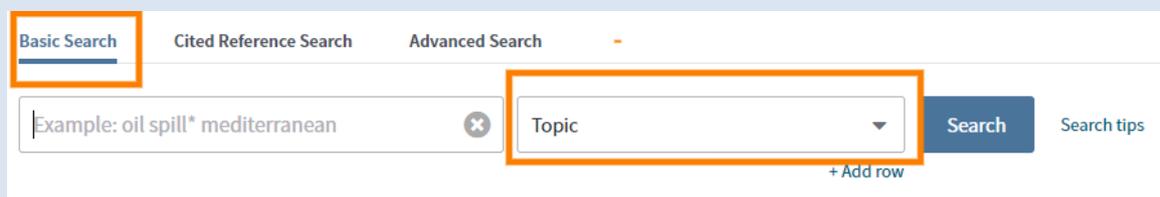


Web of Science is actually a collection of smaller databases – by default Web of Science will search them all at once. However, we'd recommend changing the drop down menu from 'All Databases' to '**Web of Science Core Collection**' as this will give you more options when it comes to exporting your results (eg: to bibTeX).

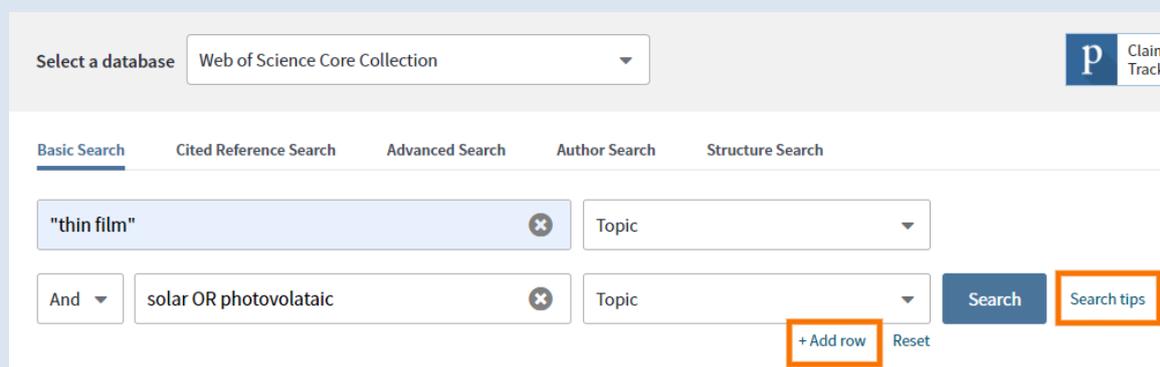
You may miss out some results relating to biology and healthcare using the core collection however, so if you're interested in these areas you can search All Databases instead.



There are various search options, but 'Basic Search' is the best option for most literature searches. '**Topic**' is the broadest search option available (it searches the title, abstract and keywords of papers) so leave it on this to make sure you're not missing anything:



To add more search boxes, click 'Add row'



There are various ways to search, but we would recommend using a separate search box for each of the different concepts in your research question. Combine any alternative spellings or terms for the same concept with OR, and combine each separate search box with AND.

You can put phrases of more than one word in "quotation marks" so that Web of Science searches for them as phrases rather than separate words. For help with searching, click **Search tips**

When you're happy with your search terms, click Search. Web of Science will then search thousands of research publications for anything matching your search terms.

The screenshot shows a search results page for the query: TOPIC: ("thin film") AND TOPIC: (solar OR photovoltaic). The results are sorted by Date, with 27,827 results found. The first result is titled "New development of atomic layer deposition: processes, methods and applications" by Ovtiroh, Peter Ozaveshe; Akbarzadeh, Rokhsareh; Pan, Dongqing; et al. The page includes a sidebar with "Refine Results" options such as "Highly Cited in Field", "Hot Papers in Field", "Open Access", and "Associated Data". A "Document Types" filter is also present, with "REVIEW" selected. A text box with an arrow pointing to the "Sort by" dropdown menu contains the following text:

You can **sort** your search results by publication date, relevance or the number of citations.

You can use the **Refine Results** options to narrow your search further. For example, you can use the **publication years** option to limit your search to recent articles, or use **Document Type** to limit your results to **Review** articles (summaries of research in a particular area, which can be a good place to start when reviewing the literature).

You can also see 'highly cited' and 'hot papers' which have received a lot of attention – remember though that these aren't necessarily the best or most recent papers, they've just had a lot of citations.

Web of Science



Search Search Results

Tools Searches and alerts Search History Marked List 1

Find It Look Up Full Text Find PDF Export... Add to Marked List

2 of 1,065

Synthesis of Conjugated Polymers for Organic Solar Cell Applications

By: Cheng, YJ (Cheng, Yen-Ju)^[1]; Yang, SH (Yang, Sheng-Hstung)^[1]; Hsu, CS (Hsu, Chain-Shu)^[1]
View Web of Science ResearcherID and ORCID

Click on the title of a paper to read the abstract (a summary of the paper's content).

From here you can also link to any newer papers that have cited this one. This can be a good way to see if there have been any more recent developments in the field, or if the findings of this paper have been reproduced or refuted.

You can also check the references that have been cited in this paper. This can help you make sure the authors have cited reliable evidence, and also help you find older papers on this topic.

Citation Network

In Web of Science Core Collection

2,890 Highly Cited Paper
Times Cited

Create Citation Alert

All Times Cited Counts

2,913 in All Databases

See more counts

364 Cited References

View Related Records

Most recently cited by:

Ramki, K.; Venkatesh, N.; Sathiyar, G.; et al.
A comprehensive review on the reasons behind low power conversion efficiency of dibenzo derivatives based donors in bulk heterojunction organic solar cells.
ORGANIC ELECTRONICS (2019)

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2 of 1,065

Synthesis of Conjugated Polymers for Organic Solar Cell Applications

By: Cheng, YJ (Cheng, Yen-Ju)^[1]; Yang, SH (Yang, Sheng-Hsiung)^[1]; Hsu, CS (Hsu, Chain-Shu)^[1]
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CHEMICAL REVIEWS
Volume: 109 Issue: 11 Pages: 5868-5923
DOI: 10.1021/cr900182s
Published: NOV 2009
Document Type: Review
View Journal Impact

Keywords
KeyWords Plus: LOW-BAND-GAP; FIELD-EFFECT TRANSISTORS; THIN-FILM TRANSISTORS; LIGHT-EMITTING-DIODES; HETEROJUNCTION PHOTOVOLTAIC CELLS; PHOTOINDUCED ELECTRON-TRANSFER; OPEN-CIRCUIT VOLTAGE; CROSS-COUPLING REACTIONS; POLY(P-PHENYLENE VINYLENE) DERIVATIVES; INTRAMOLECULAR CHARGE-TRANSFER

Author Information
Reprint Address: Hsu, CS (reprint author)
Nat'l Chiao Tung Univ, Dept Appl Chem, 1001 Ta Hsueh Rd, Hsinchu 30049, Taiwan.
Addresses:
[1] Nat'l Chiao Tung Univ, Dept Appl Chem, Hsinchu 30049, Taiwan
E-mail Addresses: yjcheng@mail.nctu.edu.tw; cshsu@mail.nctu.edu.tw

Funding

Funding Agency	Grant Number
National Science Council of the Republic	

The Keywords section can help you think of other search terms you could use to search for this topic.

You can also see information on the journal and funding agency which can be helpful when evaluating the quality and reliability of a paper

ORGANIC ELECTRONICS (2019)

Web of Science

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Synthesis of Conjugated Polymers for Organic Solar Cell Applications

By: Cheng, YJ (Cheng, Yen-Ju)^[1]; Yang, SH (Yang, Sheng-Hsiung)^[1]; Hsu, CS (Hsu, Chain-Shu)^[1]
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To check whether we have access to an article, click on **Find It** at the top of the page – this will take you to StarPlus – if we have it, click the 'Full text available at:' link

Synthesis of Conjugated Polymers for Organic Solar Cell Applications

Yang, Sheng-Hsiung Hsu, Chain-Shu Cheng, Yen-Ju

Chemical reviews. , 2009, Vol.109(11), p.5868-5923
ISSN: 0009-2665 , 1520-6890; DOI: 10.1021/cr900182s

Fulltext available

View It Details Recommendations Altmetrics

Open source in a new window

Full text available at: American Chemical Society current journals
Available from 1996 Volume: 06 Issue: 4

Optional: saving and exporting your results

Web of Science gives you various options to save and export your search results. These require you to register for a free account with Web of Science.

Web of Science

Search

Tools | Searches and alerts | Search History | Marked List 5

Results: 1,065
(from Web of Science Core Collection)

You searched for: TOPIC: ("thin film") AND TOPIC: (solar OR photovoltaic) ...More

Create Alert

Refine Results

Search within results for...

Filter results by:

- Highly Cited in Field (166)
- Hot Topics in Field (1)

Sort by: Date Times Cited Usage Count **Relevance** More

Select Page Export... **Add to Marked List**

11. **Recent Advances in Sensitized Mesoscopic Solar Cells**
By: Graetzel, Michael
ACCOUNTS OF CHEMICAL RESEARCH Volume: 42 Issue: 11 Special Issue: SI Pages: 1788-1798
Published: NOV 2009
Find It View Abstract

12. **The design and development of highly reactive titanium oxide photocatalysts operating under visible light irradiation**
By: Anpo, M; Takeuchi, M
JOURNAL OF CATALYSIS Volume: 216 Issue: 1-2 Pages: 505-516 Published: MAY 15 2003
Find It View Abstract

Analyze Results
Create Citation Report

Times Cited: 1,922
(from Web of Science Core Collection)

Highly Cited Paper

Usage Count

Times Cited: 1,314
(from Web of Science Core Collection)

Usage Count

Add to Marked List – bookmark a paper so you can return to it later. To do this, select a paper and click 'Add to marked list'. Web of Science will then bookmark it temporarily.

If you want to save your marked list so you can access it next time you use Web of Science you'll need to click on 'Marked List' at the top of the page and click 'Save'. You'll be asked to register for an account if you haven't already done so.

Web of Science

Search

Tools | Searches and alerts | Search History | **Marked List 5**

Results: 1,065
(from Web of Science Core Collection)

You searched for: TOPIC: ("thin film") AND TOPIC: (solar OR photovoltaic) ...More

Sort by: Date Times Cited Usage Count **Relevance** More

Select Page Export... **Add to Marked List**

Analyze Results
Create Citation Report

Web of Science

Search | Search Results

Tools | Searches and alerts | Search History | Marked List 5

Marked List 5 records | View Derwent Compounds Marked List: 0 compounds

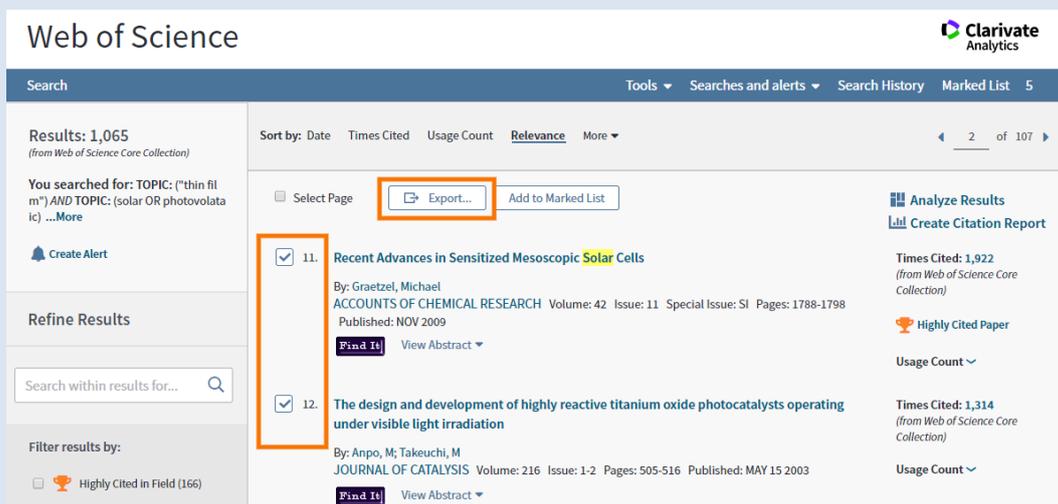
Save Open/Manage Clear

5 total records on the Marked List
Output author, title, source, abstract, and times cited for all records in the Marked List.

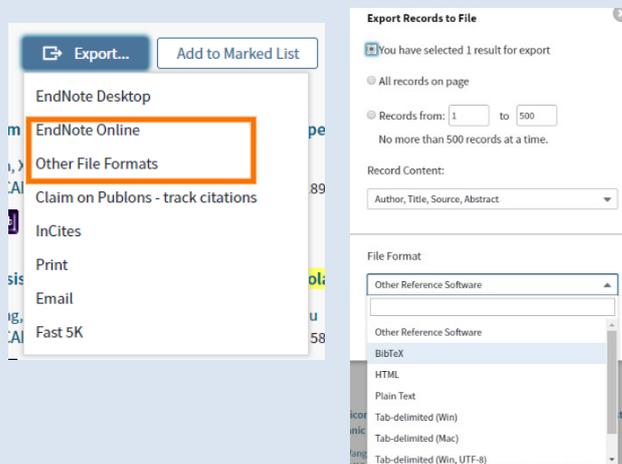
Export – these options let you send your results to email or to a reference manager like Endnote or bibTeX.

Reference management software is designed to help you build a library of references and then insert them as citations into a Word or LaTeX document. For more information on reference managers, visit <https://www.sheffield.ac.uk/library/refmant>.

To export your results, select them and click Export



You have several options including print and email – to export to bibTeX, select Other File Formats (please note that bibTeX is only an export option when searching Web of Science Core Collection rather than All Databases).



Further Support

You can find out more about databases and literature searching on the Library's guide for Physics & Astronomy: <https://www.sheffield.ac.uk/library/idlt/subject/physicsastronomy>

It's important to acknowledge the original author of any books, papers, data, images or anything else that you refer to in your work. The best way to do this is to **reference** your sources correctly.

The Library guide to referencing using the American Institute of Physics (AIP) style is available at: https://librarydevelopment.group.shef.ac.uk/shef-only/referencing/physics_AIP/contents.html