

1

## **What is Scopus? [www.scopus.com](http://www.scopus.com)**

**Largest abstract & citation database of curated international peer-reviewed literature**

- 22 000 peer-reviewed journals
- 360 trade publications
- 120 000 books (with 10 000 added/year)
- >70 million records, back to 1788
- 6.4 million conf papers from proceedings & jrnl
- 350 million scientific web pages indexed by Scirus
- 25.2 million patent records
- “Articles-in-Press” from >3850 journals

2

## Searching for a topic

Use the "Document search" tab (default)

The screenshot shows the Scopus search interface. At the top, there is a navigation bar with 'Scopus' on the left and 'Search', 'Sources', 'Alerts', 'Lists', 'Help', 'SciVal', 'Register', and 'Login' on the right. Below this is a dark blue header with 'Document search' on the left and 'Compare sources' on the right. Underneath, there are tabs for 'Documents', 'Authors', 'Affiliations', and 'Advanced'. The 'Documents' tab is selected. The search area contains a search bar with the text 'superconductivity AND "broken symmetry"'. Below the search bar, there are three rows of search criteria, each with an 'AND' operator and a search input field. At the bottom right, there are 'Reset form' and 'Search Q' buttons.

3

## Searching for a topic

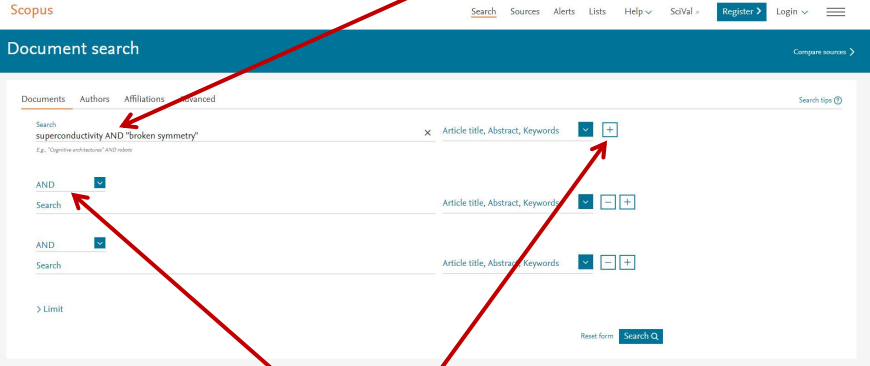
Type in key words

This screenshot is identical to the one above, showing the Scopus search interface. However, a red arrow points from the text 'Type in key words' to the search bar containing the text 'superconductivity AND "broken symmetry"'. The rest of the interface, including the navigation bar, tabs, and search criteria, is the same as in the previous image.

4

## Searching for a topic

**Use Boolean operators to add or narrow terms, or add more search fields**



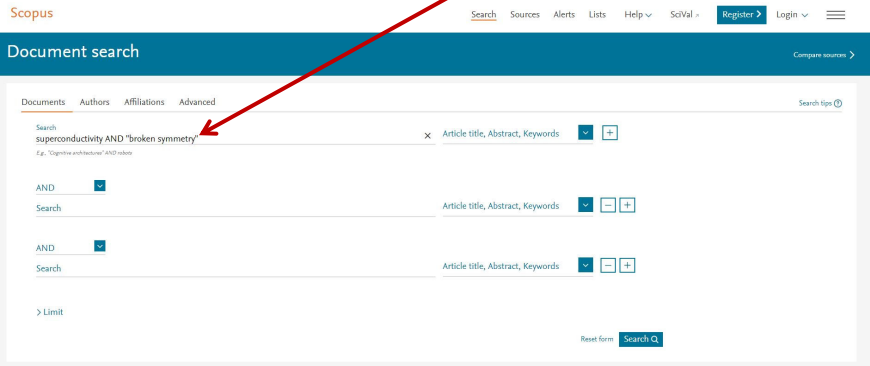
The screenshot shows the Scopus Document search interface. The search bar contains the query "superconductivity AND 'broken symmetry'". Below the search bar, there are three search fields, each with an "AND" operator and a search type dropdown menu set to "Article title, Abstract, Keywords". A red arrow points from the text "Use Boolean operators to add or narrow terms, or add more search fields" to the "AND" operator in the first search field. Another red arrow points from the same text to the "+" button next to the search type dropdown in the first search field. A third red arrow points from the text "Or use the 'add field' button" to the "+" button next to the search type dropdown in the second search field.

**Or use the "add field" button**

5

## Searching for a topic

**Use quotation marks to search for exact phrases**



The screenshot shows the Scopus Document search interface. The search bar contains the query "superconductivity AND 'broken symmetry'". A red arrow points from the text "Use quotation marks to search for exact phrases" to the quotation marks around "broken symmetry" in the search bar.

6

## Searching for a topic

Use the drop-down menus to specify where to search

The screenshot shows the Scopus Document search page. The search query is "superconductivity AND 'broken symmetry'". Below the query, there are three AND search criteria, each with a dropdown menu set to "Article title, Abstract, Keywords". A red arrow points to the first dropdown menu. The page also includes a "Limit" link and a "Search Q" button.

7

## Searching for a topic

The screenshot shows the Scopus Document search page with the same search query as slide 7. Below the search criteria, the "Limit" link is circled in red. A red arrow points to the "Limit" link with the text "Use the 'Limit' link to specify a date range". Below the "Limit" link, there are options for "Date range (inclusive)", "Document type", and "Access type".

8

## Searching for a topic

The screenshot shows the Scopus search interface. At the top, there are navigation links: Search, Sources, Alerts, Lists, Help, SciVal, Register, and Login. Below this is the 'Document search' section. The search query is 'superconductivity AND "broken symmetry"'. There are three search input fields, each with a dropdown menu set to 'Article title, Abstract, Keywords'. Below the search fields, there is a 'Limit' link circled in red. Below the 'Limit' link, there are three filter options: 'Date range (inclusive)', 'Document type', and 'Access type'. The 'Date range (inclusive)' filter is set to 'Published' and 'All years' to 'Present'. The 'Document type' filter is set to 'ALL'. The 'Access type' filter is set to 'All'. Red arrows point from the text 'Use the "Limit" link to specify a date range or document or access type (open access)' to the 'Limit' link and the three filter options.

9

## Results can be refined by many search parameters

The screenshot shows the Scopus search results page for the query 'superconductivity AND "broken symmetry"'. The page displays '164 document results'. On the left side, there is a 'Refine results' panel with three main sections: 'Access type', 'Year', and 'Author name'. The 'Access type' section has a dropdown menu set to 'Open Access'. The 'Year' section has a dropdown menu set to '2018'. The 'Author name' section has a dropdown menu set to 'Eswaki, H.'. Red arrows point from the text 'Results can be refined by many search parameters' to the 'Refine results' panel and the search results table. The search results table has columns for 'Document title', 'Authors', 'Year', 'Source', and 'Cited by'. The first four results are listed:

Document title	Authors	Year	Source	Cited by
1 Evidence of cosmic strings by the observation of the alignment of quasar polarization axes on Mpc scale	Slagter, R.J.	2018	International Journal of Modern Physics D 27(9),1850094	0
2 Quantum Multicriticality near the Dirac-Semimetal to Band-Insulator Critical Point in Two Dimensions: A Controlled Ascent from One Dimension	Roy, B., Foster, M.S.	2018	Physical Review X 8(1),011049	2
3 Two-stage multipolar ordering in PVTAl2O Kondo materials	Freyer, F., Atig, J., Lee, S., (...), Trebst, S., Kim, Y.B.	2018	Physical Review B 97(11),115111	0
4 Magnetic and Nematic Orders of the Two-Dimensional Electron Gas at Oside(111) Surfaces and Interfaces	Boudjada, N., Wachtel, G., Paramakanti, A.	2018	Physical Review Letters 120(9),096002	2

10

## Results can be automatically analyzed by clicking the link

The screenshot shows the Scopus search results page for the query "TITLE-ABS-KEY ( superconductivity AND broken symmetry)". The page displays 164 document results. A red arrow points to the "Analyze search results" button located in the search bar area. Below the search bar, there are filters for "Access type" (Open Access, Other) and "Year" (2018, 2017, 2016, 2015, 2014). The main results table shows the following entries:

Document title	Authors	Year	Source	Cited by
1 Evidence of cosmic strings by the observation of the alignment of quasar polarization axes on Mpc scale	Slagter, R.J.	2018	International Journal of Modern Physics D 27(9),1850094	0
2 Quantum Multicriticality near the Dirac-Semimetal to Band-Insulator Critical Point in Two Dimensions: A Controlled Ascent from One Dimension	Roy, B., Foster, M.S.	2018	Physical Review X 8(1),011049	2
3 Two-stage multipolar ordering in PtZr <sub>2</sub> O <sub>7</sub> Kondo materials	Freyre, F., Abig, J., Lee, S., (...), Trebst, S., Kim, Y.B.	2018	Physical Review B 97(11),115111	0
4 Magnetic and Nematic Orders of the Two-Dimensional Electron Gas at Oxide (111) Surfaces and Interfaces	Boudjada, N., Wachtel, G., Paramakanti, A.	2018	Physical Review Letters 120(8),086802	2

11

## And Scopus will analyze the results in many different ways

The screenshot shows the Scopus search results page for the query "TITLE-ABS-KEY ( superconductivity AND broken symmetry)". The page displays 164 document results. The "by affiliation" chart shows the following data:

Affiliation	Documents
Broadband National Laboratory	10
University of Tokyo	8
Los Alamos National Laboratory	7
Stanford University	7
National Institute of Advanced Industrial Science and Technology	6
University of Alberta, Edmonton, Alberta, Canada	6
University of Toronto	6
Chinese Academy of Sciences	5
Joint Institute for Nuclear Research, Dubna	5

Below the affiliation chart, there are six additional charts showing the distribution of documents:

- Documents by year**: A line chart showing the number of documents published over time.
- Documents per year by source**: A line chart showing the number of documents published per year, broken down by source.
- Documents by author**: A horizontal bar chart showing the number of documents published by each author.
- Documents by country/territory**: A horizontal bar chart showing the number of documents published by each country/territory.
- Documents by type**: A pie chart showing the distribution of documents by type.
- Documents by subject area**: A pie chart showing the distribution of documents by subject area.

12

## Click on the title in the "results" list

Scopus Search Sources Alerts Lists Help SciVal Register Login

164 document results

TITLE-ABS-KEY (superconductivity AND "broken symmetry")

Search within results... Analyze search results Show all abstracts Sort on: Date (newest)

Refine results: Limit to, Exclude, Access type (Open Access, Other), Year (2018, 2017, 2016, 2015)

Document title	Authors	Year	Source	Cited by
1 Evidence of cosmic strings by the observation of the alignment of quasar polarization axes on Mpc scale	Sluiter, R.J.	2018	International Journal of Modern Physics D 27(9),1850094	0
2 Quantum Multicriticality near the Dirac-Semimetal to Band-Insulator Critical Point in Two Dimensions: A Controlled Ascent from One Dimension	Roy, B., Foster, M.S.	2018	Physical Review X 8(1),011049	2

13

## Abstract, metrics, citing docs, related docs, keywords, all references

Scopus Search Sources Alerts Lists Help SciVal Register Login

Document details

Physical Review X, Open Access, Volume 8, Issue 1, 26 March 2018, Article number 011049

Quantum Multicriticality near the Dirac-Semimetal to Band-Insulator Critical Point in Two Dimensions: A Controlled Ascent from One Dimension (Article) (Open Access)

Roy, B., Foster, M.S.P.

Department of Physics and Astronomy, Rice University, Houston, TX 77005, United States  
Rice Center for Quantum Materials, Rice University, Houston, TX 77005, United States

Abstract: We compute the effects of generic short-range interactions on gapless electrons residing at the quantum critical point separating a two-dimensional Dirac semimetal and a symmetry-preserving band insulator. The electronic dispersion at this critical point is anisotropic... (text continues)

Metrics: 2 Citations in Scopus, 4.92 Field-Weighted Citation Impact

link for citing docs

Cited by 2 documents

Phase transition with trivial quantum criticality in an anisotropic Weyl semimetal  
Lu, X., Wang, J.-R., Liu, G.-Z. (2018) Physical Review B

Itinerant quantum multicriticality of two-dimensional Dirac fermions  
Roy, B., Goswami, P., Juricic, V. (2018) Physical Review B

Related documents

Itinerant quantum multicriticality of two-dimensional Dirac fermions  
Roy, B., Goswami, P., Juricic, V. (2018) Physical Review B

Emergent Non-Fermi-Liquid at the Quantum Critical Point of a Topological Phase Transition in Two Dimensions

Indexed keywords: Anisotropy, Charge density, Charge density waves, Corundum, Density optical, Heterostructure, Hubbard model, Metalloid, Optical lattices, Phase diagrams

Engineering controlled terms: Quantum electron, Separation, Shear waves, Spin density wave, Statistical mechanics

14

**You can also access the full text for most papers**

Scopus Search Sources Alerts Lists Help ScVal Register Login

### Document details

< Back to results | < Previous 2 of 144 Next >

Export Download Print E-mail Save to PDF Add to List More...  
Download Article Download Article **View at Publisher** ← **“View at Publisher” link**

Physical Review X Open Access  
Volume 8, Issue 1, 26 March 2018, Article number 011049

#### Quantum Multicriticality near the Dirac-Semimetal to Band-Insulator Critical Point in Two Dimensions: A Controlled Ascent from One Dimension

(Article) (Open Access)  
Roy, B., Foster, M.S.M.

Department of Physics and Astronomy, Rice University, Houston, TX 77005, United States  
Rice Center for Quantum Materials, Rice University, Houston, TX 77005, United States

Abstract  
We compute the effects of generic short-range interactions on gapless electrons residing at the quantum critical point separating a two-dimensional Dirac semimetal and a symmetry-preserving band insulator. The electronic dispersion at this critical point is anisotropic ( $E_{\pm}(k) = \pm v_F |k_x| + v_{\perp} |k_y|$ ), which results in unconventional scaling of thermodynamic and transport quantities. Because of the vanishing density of states ( $\rho(E) \sim |E|^{n-1}$ ), this anisotropic semimetal (ASM) is stable against weak short-range interactions. However, for stronger interactions, the direct Dirac-semimetal to band-insulator transition can either (i) become a fluctuation-driven first-order transition (although unlikely in a particular microscopic model considered here, the anisotropic honeycomb lattice extended Hubbard model) or (ii) get avoided by an intervening broken-symmetry phase. We perform a controlled renormalization group analysis with the small parameter  $\epsilon = 1/n$ , augmented with a  $1/n$  expansion (parametrically suppressing quantum fluctuations in the higher dimension) by perturbing away from the one-dimensional limit, realized by setting  $\epsilon = 0$  and  $n \rightarrow \infty$ . We identify charge density wave (CDW), antiferromagnet (AFM), and singlet s-wave superconductivity as the three dominant candidates for broken symmetry. The onset of any such order at strong coupling ( $\epsilon < 0$ ) takes place through a continuous quantum phase transition across an interacting multicritical point, where the ordered phase, band insulator, Dirac, and anisotropic semimetal meet. We also present the phase diagram of an extended Hubbard model for the ASM, obtained via the controlled deformation of its counterpart in one dimension. The latter displays spin-charge separation and instabilities to CDW, spin density wave, and Luther-Emery liquid phases at arbitrarily weak coupling. The spin density wave and Luther-Emery liquid phases deform into pseudospin SU(2)-symmetric quantum critical points separating the ASM from the AFM and superconducting orders, respectively. Our phase diagram shows an intriguing interplay among CDW, AFM, and s-wave paired states that can be germane for a uniaxially strained optical honeycomb lattice for ultracold fermion atoms, or the organic compound  $\text{Gd}(\text{BEDT-TTF})_2$ . © 2018 authors. Published by the American Physical Society.

Reprints Database Information  
View Compound

Indexed keywords  
Engineering controlled terms: Anisotropy Charge density Charge density wave Corundum Density optical Honeycomb structures Hubbard model Metalloid Optical lattices Phase diagrams Quantum electronics Separation Shear waves Spin density wave Statistical mechanics

Metrics  
269 Citations in Scopus  
4.92 Field-Weighted Citation Impact

PluX Metrics  
Deep, Capture, Monitor, Social Media and Custom based Scopus

Cited by 2 documents  
Phase transition with trivial quantum criticality in an anisotropic Weyl semimetal  
Lu, X., Wang, J.-R., Liu, G.-Z. (2018) Physical Review B  
Itinerant quantum multicriticality of two-dimensional Dirac fermions  
Roy, B., Goswami, P., Jun62, V. (2018) Physical Review B  
View all 2 citing documents

Inform me when this document is cited in Scopus:  
Set citation alert? Set citation feed?

Related documents  
Itinerant quantum multicriticality of two-dimensional Dirac fermions  
Roy, B., Goswami, P., Jun62, V. (2018) Physical Review B  
Emergent Non-Fermi-Liquid at the Quantum Critical Point of a Topological Phase Transition in Two Dimensions

15

**Voilà!**

SAPS physics Journals Help/Feedback Journal, vol, page, DOI, etc.

### PHYSICAL REVIEW X

Highlights Recent Subjects Accepted Collections Authors Referees Search Press About Staff

Open Access

#### Quantum Multicriticality near the Dirac-Semimetal to Band-Insulator Critical Point in Two Dimensions: A Controlled Ascent from One Dimension

Bitan Roy and Matthew S. Foster  
Phys. Rev. X **8**, 011049 – Published 26 March 2018

Article References Citing Articles (2) PDF HTML Export Citation

ABSTRACT  
We compute the effects of generic short-range interactions on gapless electrons residing at the quantum critical point separating a two-dimensional Dirac semimetal and a symmetry-preserving band insulator. The electronic dispersion at this critical point is anisotropic ( $E_{\pm}(k) = \pm \sqrt{v^2 k_x^2 + v_{\perp}^2 k_y^2}$ ) with  $n = 2$ , which results in unconventional scaling of thermodynamic and transport quantities. Because of the vanishing density of states ( $\rho(E) \sim |E|^{n-1}$ ), this anisotropic semimetal (ASM) is stable against weak short-range interactions. However, for stronger interactions, the direct Dirac-semimetal to band-insulator transition can either (i) become a fluctuation-driven first-order transition (although unlikely in a particular microscopic model considered here, the anisotropic honeycomb lattice extended Hubbard model) or (ii) get avoided by an intervening broken-symmetry phase. We perform a controlled renormalization group analysis with the small parameter  $\epsilon = 1/n$ , augmented with a  $1/n$  expansion (parametrically suppressing quantum fluctuations in the higher dimension) by perturbing away from the one-dimensional limit, realized by setting  $\epsilon = 0$  and  $n \rightarrow \infty$ . We identify charge density wave (CDW),

Issue  
Vol. 8, Iss. 1 — January - March 2018

Subject Areas  
Condensed Matter Physics  
Strongly Correlated Materials

Check for updates

16



## You can also search by author

Use the "Author search"

Scopus Search Sources Alerts Lists Help SciVal Register Login

### Author search

Compare sources

To determine which author names should be grouped together under a single identifier number, the Scopus Author Identifier uses an algorithm that matches author names based on their affiliation, address, subject area, source title, dates of publication, citations, and co-authors. Documents with insufficient data may not be matched, this can lead to more than one entry in the results list for the same author. By default, only details pages matched to more than one document in Scopus are shown in search results. About Scopus Author Identifier

Documents **Authors** Affiliations Advanced Search tips

Author last name  Author first name   
e.g. Smith e.g. J.L.

Affiliation   Show exact matches only

ORCID    
e.g. 1111-2222-3333-4444

17

## You can also search by author

Type in author surname and first name or initials

Scopus Search Sources Alerts Lists Help SciVal Register Login

### Author search

Compare sources

To determine which author names should be grouped together under a single identifier number, the Scopus Author Identifier uses an algorithm that matches author names based on their affiliation, address, subject area, source title, dates of publication, citations, and co-authors. Documents with insufficient data may not be matched, this can lead to more than one entry in the results list for the same author. By default, only details pages matched to more than one document in Scopus are shown in search results. About Scopus Author Identifier

Documents **Authors** Affiliations Advanced Search tips

Author last name  Author first name   
e.g. Smith e.g. J.L.

Affiliation   Show exact matches only

ORCID    
e.g. 1111-2222-3333-4444

18

## You can also search by author

Turn on "exact matches" to narrow search

The screenshot shows the Scopus Author search page. At the top, there is a navigation bar with 'Search', 'Sources', 'Alerts', 'Lists', 'Help', 'SciVal', 'Register', and 'Login'. Below this is a blue header with 'Author search' and a 'Compare sources' link. A blue information box explains the Scopus Author Identifier algorithm. The search form has tabs for 'Documents', 'Authors', 'Affiliations', and 'Advanced'. The 'Authors' tab is active. There are two input fields: 'Author last name' with 'Fradkin' and 'Author first name' with 'Eduardo'. Below these is an 'Affiliation' field with a placeholder 'eg. University of Toronto'. A checkbox labeled 'Show exact matches only' is checked. A 'Search Q' button is on the right. At the bottom, there is an 'ORCID' field with another 'Search Q' button.

19

## You can also search by author

Leave "Affiliation" blank for more results

This screenshot is identical to the one above, but the 'Show exact matches only' checkbox is unchecked. A red arrow points from the text 'Leave "Affiliation" blank for more results' to the 'Affiliation' input field, which is currently blank.

20

## Select the correct author...

The screenshot shows the Scopus search results for the author 'Fradkin, Eduardo'. The search criteria are 'Author last name "Fradkin", Author first name "Eduardo"'. The results are sorted by 'Document count (high-low)'. There are two author entries, both with a checkmark. The first entry is 'Fradkin, Eduardo H.' with 225 documents. The second entry is 'Fradkin, Eduardo' with 1 document. A red circle highlights the 'Show documents' link for the first entry, with a red arrow pointing to it. The text 'and click on "Show documents"' is written in blue at the bottom of the screenshot.

21

## And we get Eduardo's 226 papers

The screenshot shows the Scopus search results for the author 'Fradkin, Eduardo'. The search criteria are 'AU-ID ("Fradkin, Eduardo H." 35498145900) OR AU-ID ("Fradkin, Eduardo" 57203044407)'. The results are sorted by 'Date (newest)'. There are two document entries. The first entry is 'Scrambling in the quantum Lifshitz model' by 'Plamadela, E., Fradkin, E.' from 2018, published in 'Journal of Statistical Mechanics: Theory and Experiment' 2018(10), 1063102. The second entry is 'Pair density waves in superconducting vortex halos' by 'Wang, Y., Edkins, S.D., Hamidian, M.H., (...) Fradkin, E., Kivelson, S.A.' from 2018, published in 'Physical Review B' 97(17), 174510. Red arrows point to the 'Access type' filter (set to 'Open Access'), the 'Year' filter (set to '2018'), and the 'Sort on: Date (newest)' dropdown menu. The text 'which can also be sorted in a variety of ways' is written in red at the bottom of the screenshot.

22

## Scopus can dump citation data to your reference manager by magic

Analyze search results Show all abstracts Sort on: Date (newest)

All **Export** Download View citation overview View cited by Add to List ...

	Document title	Authors	Year	Source
<input checked="" type="checkbox"/> 1	Scrambling in the quantum Lifshitz model	Plamadeala, E., Fradkin, E.	2018	Journal of Statistical Mechanics: Theory and Experiment 2018(6),063102
	<a href="#">View abstract</a> <a href="#">DOI</a> <a href="#">Cover full text</a> <a href="#">View at Publisher</a> <a href="#">Related documents</a>			
<input checked="" type="checkbox"/> 2	Pair density waves in superconducting vortex halos	Wang, Y., Edkins, S.D., Hamidian, M.H., (...), Fradkin, E., Kivelson, S.A.	2018	Physical Review B 97(17),174510
	<a href="#">View abstract</a> <a href="#">DOI</a> <a href="#">Cover full text</a> <a href="#">View at Publisher</a> <a href="#">Related documents</a>			
<input checked="" type="checkbox"/> 3	Loop models, modular invariance, and three-dimensional bosonization	Goldman, H., Fradkin, E.	2018	Physical Review B 97(19),195112

**“Turn on” the papers you want to export**

23

## Then tell Scopus what you want, how you want it, and then click “Export”

Export document settings ×

You have chosen to export 4 documents

Select your method of export

MENDELLEY  RefWorks  RIS Format  CSV  BibTeX  Plain Text  EndNotes  Excel  ASC  HTML

Reference Manager

What information do you want to export?

<input checked="" type="checkbox"/> Citation information	<input type="checkbox"/> Bibliographical information	<input type="checkbox"/> Abstract & keywords	<input type="checkbox"/> Funding details	<input type="checkbox"/> Other information
<input checked="" type="checkbox"/> Author(s)	<input type="checkbox"/> Affiliations	<input type="checkbox"/> Abstract	<input type="checkbox"/> Number	<input type="checkbox"/> Tradenames & manufacturers
<input checked="" type="checkbox"/> Document title	<input type="checkbox"/> Serial identifiers (e.g. ISSN)	<input type="checkbox"/> Author keywords	<input type="checkbox"/> Acronym	<input type="checkbox"/> Accession numbers & chemicals
<input checked="" type="checkbox"/> Year	<input type="checkbox"/> PubMed ID	<input type="checkbox"/> Index keywords	<input type="checkbox"/> Sponsor	<input type="checkbox"/> Conference information
<input checked="" type="checkbox"/> Source title	<input type="checkbox"/> Publisher		<input type="checkbox"/> Funding text	<input type="checkbox"/> Include references
<input checked="" type="checkbox"/> volume, issue, pages	<input type="checkbox"/> Editor(s)			
<input checked="" type="checkbox"/> Citation count	<input type="checkbox"/> Language of original document			
<input checked="" type="checkbox"/> Source & document type	<input type="checkbox"/> Correspondence address			
<input checked="" type="checkbox"/> DOI	<input type="checkbox"/> Abbreviated source title			

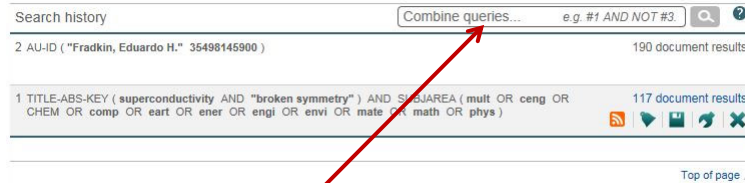
**“Citation Information” is the default**  
**Can also export bibliographic information, abstract and key words, references, funding details, and “other” information**

Cancel **Export**

*Zotero uses RIS format*

24

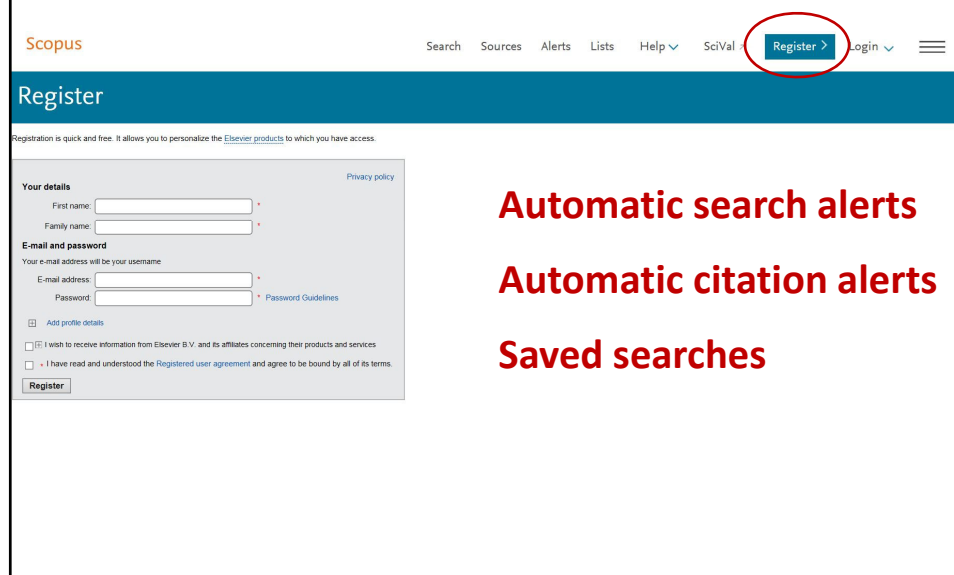
## Scopus saves up to 50 searches per session automatically



which can be combined

25

## Free registration gives access to additional services

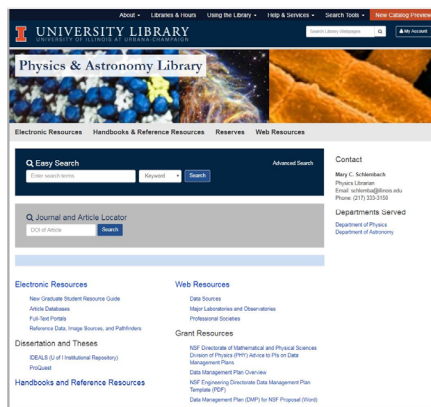


26

## Want to use Scopus\* from home?

Log in through the Library gateway at the bottom of the Physics homepage or go directly to

<http://www.library.illinois.edu/phx/>



\*or any of the Physics electronic resources

  
[cmelliott@illinois.edu](mailto:cmelliott@illinois.edu)  
<http://physics.illinois.edu/people/Celia>