The Science Explorer: The new digital library of Space Science

SciX

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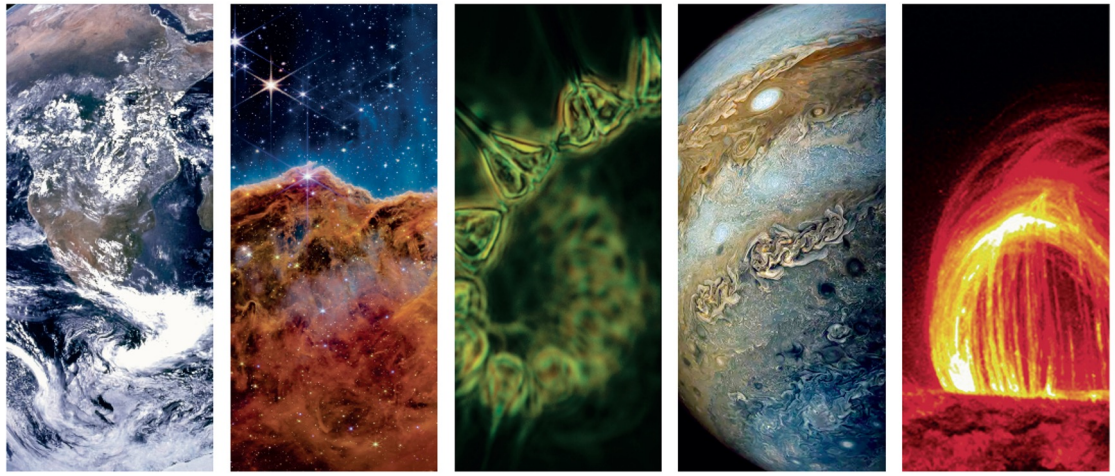


Simon Anghel and the SciX Team

LTE, Paris Observatory

Center for Astrophysics | Harvard & Smithsonian

astrophysics data system

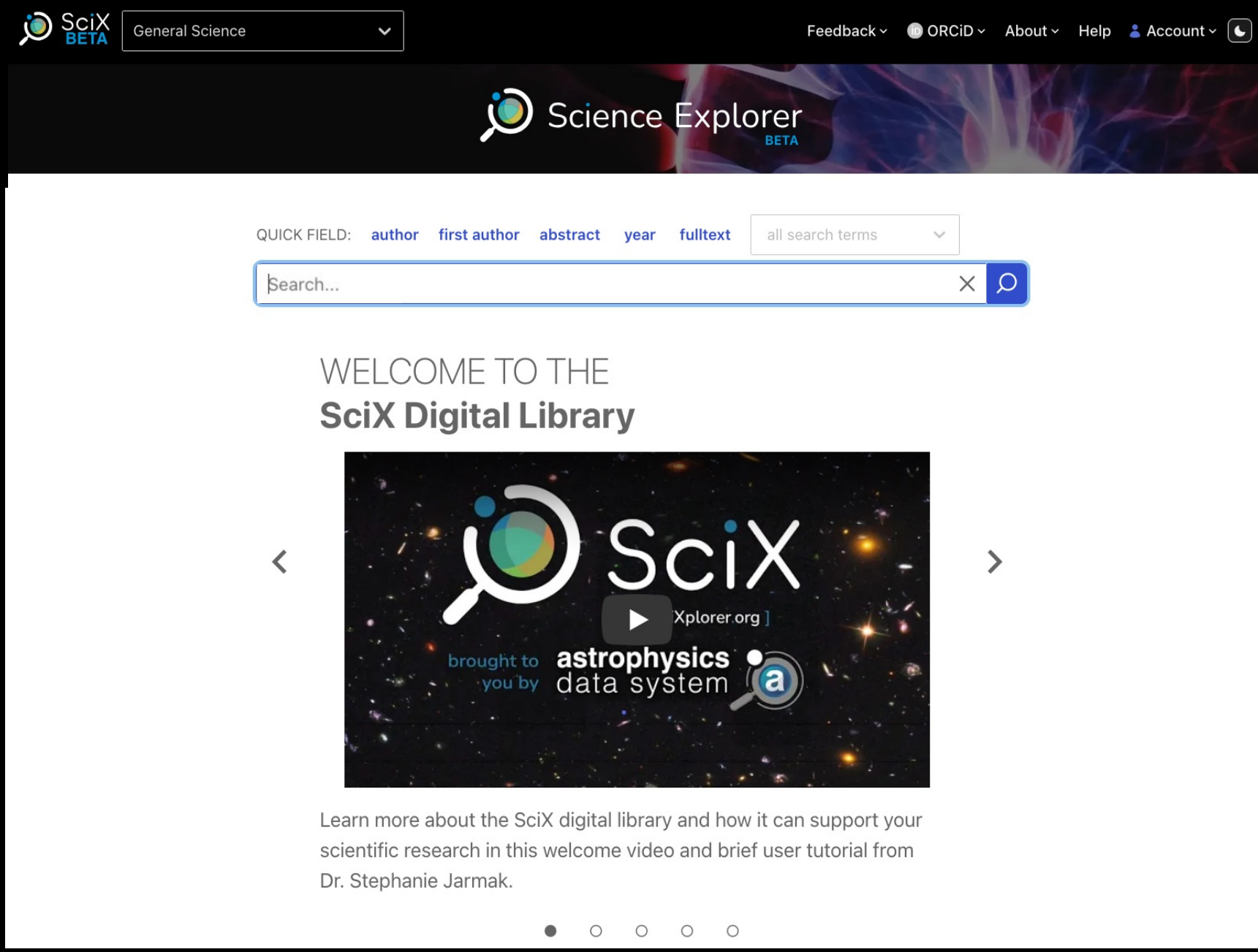
CENTER FOR ASTROPHYSICS HARVARD & SMITHSONIAN

NASA Science Explorer

Accelerating the discovery of NASA Science.

What is The Science Explorer?

SciX is a **new literature portal** that was just launched as part of the **expansion** of the **NASA Astrophysics Data System (ADS),** a digital library focusing on **Space Science research**.



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What is The Science Explorer?

SciX is a literature-based, **open digital information system** covering and unifying the research disciplines **funded by the NASA Science Mission Directorate**.

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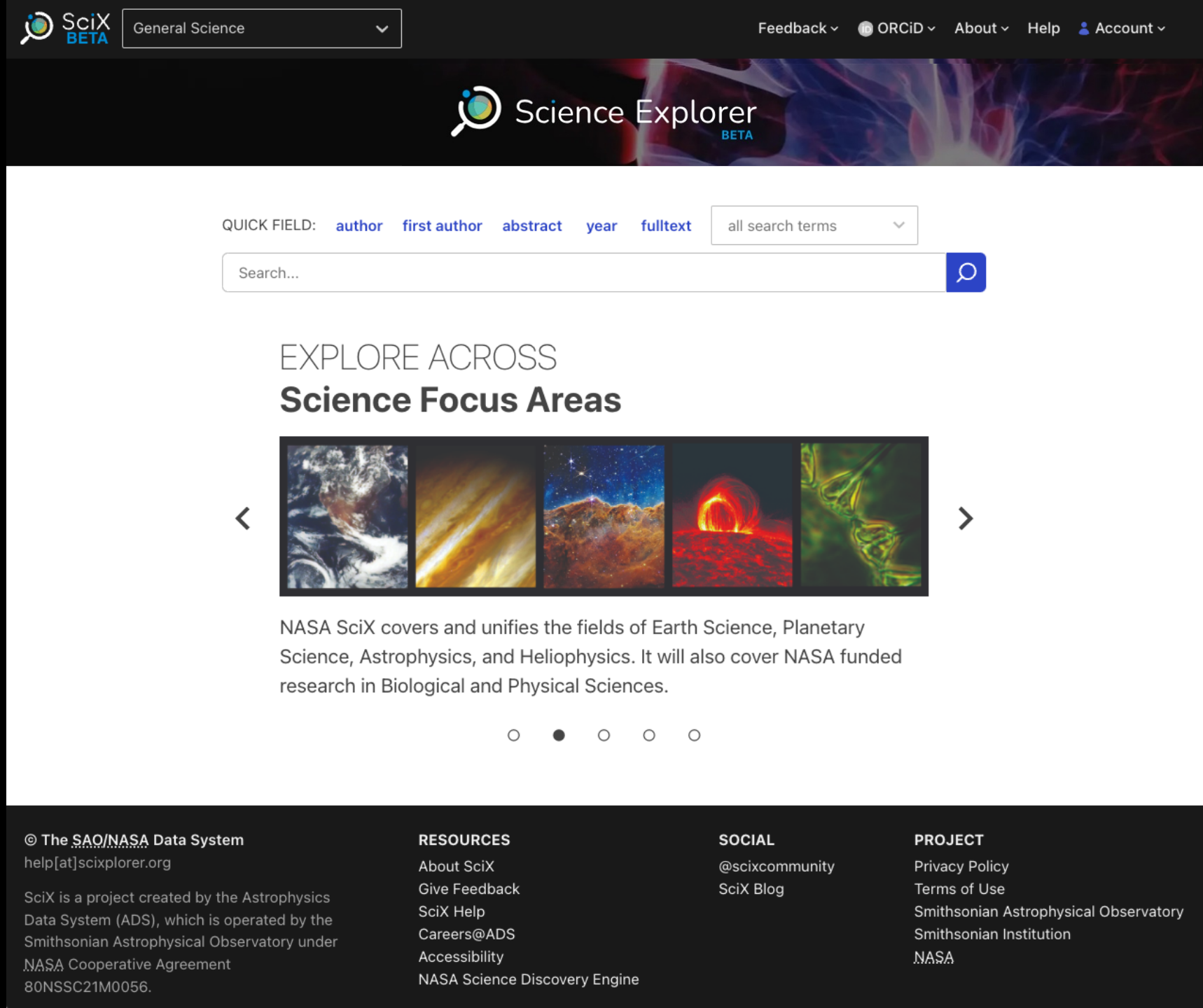

What is The Science Explorer?

SciX supports **NASA's Open Science efforts** and enables **interdisciplinary** research and **collaboration**.

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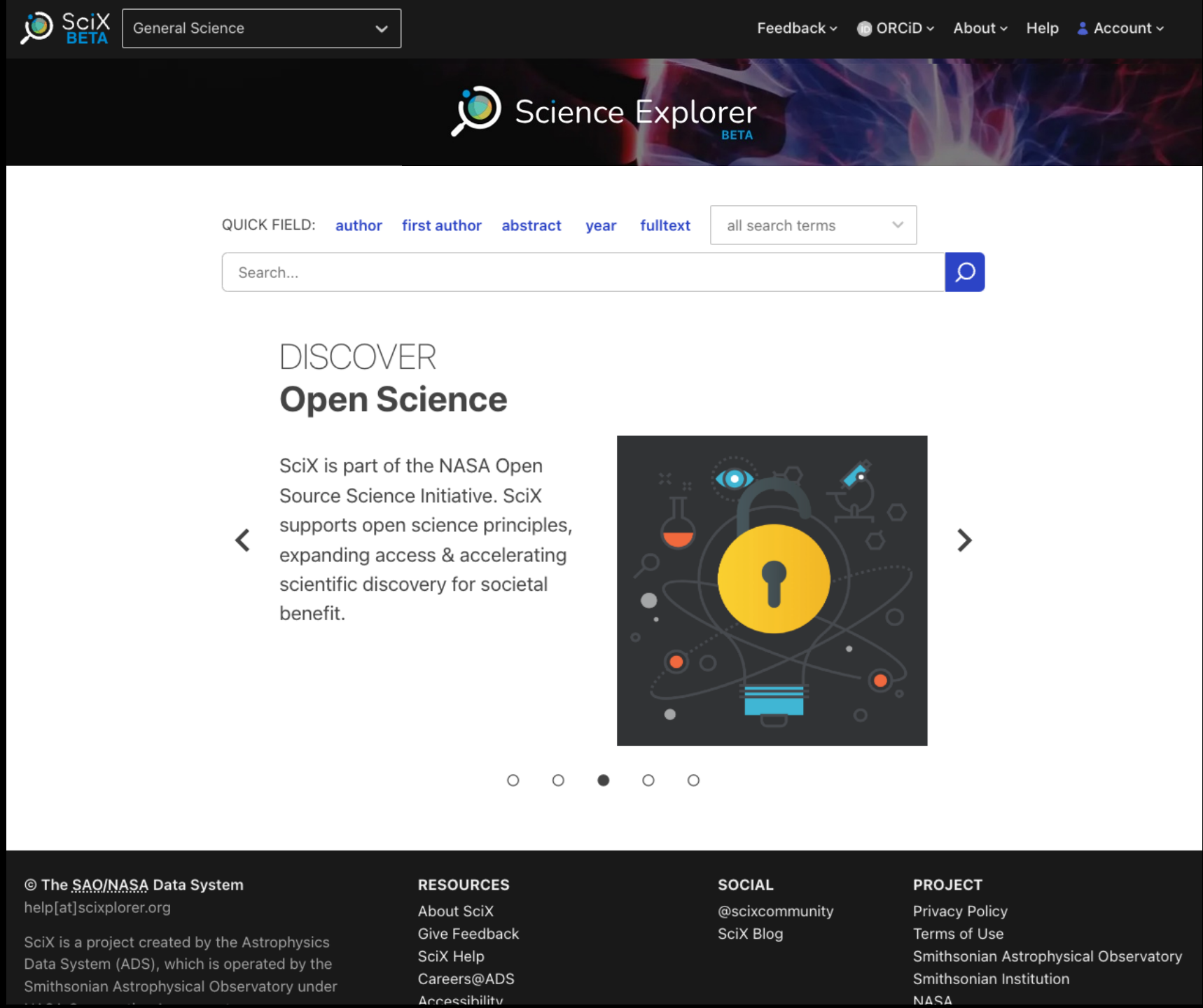
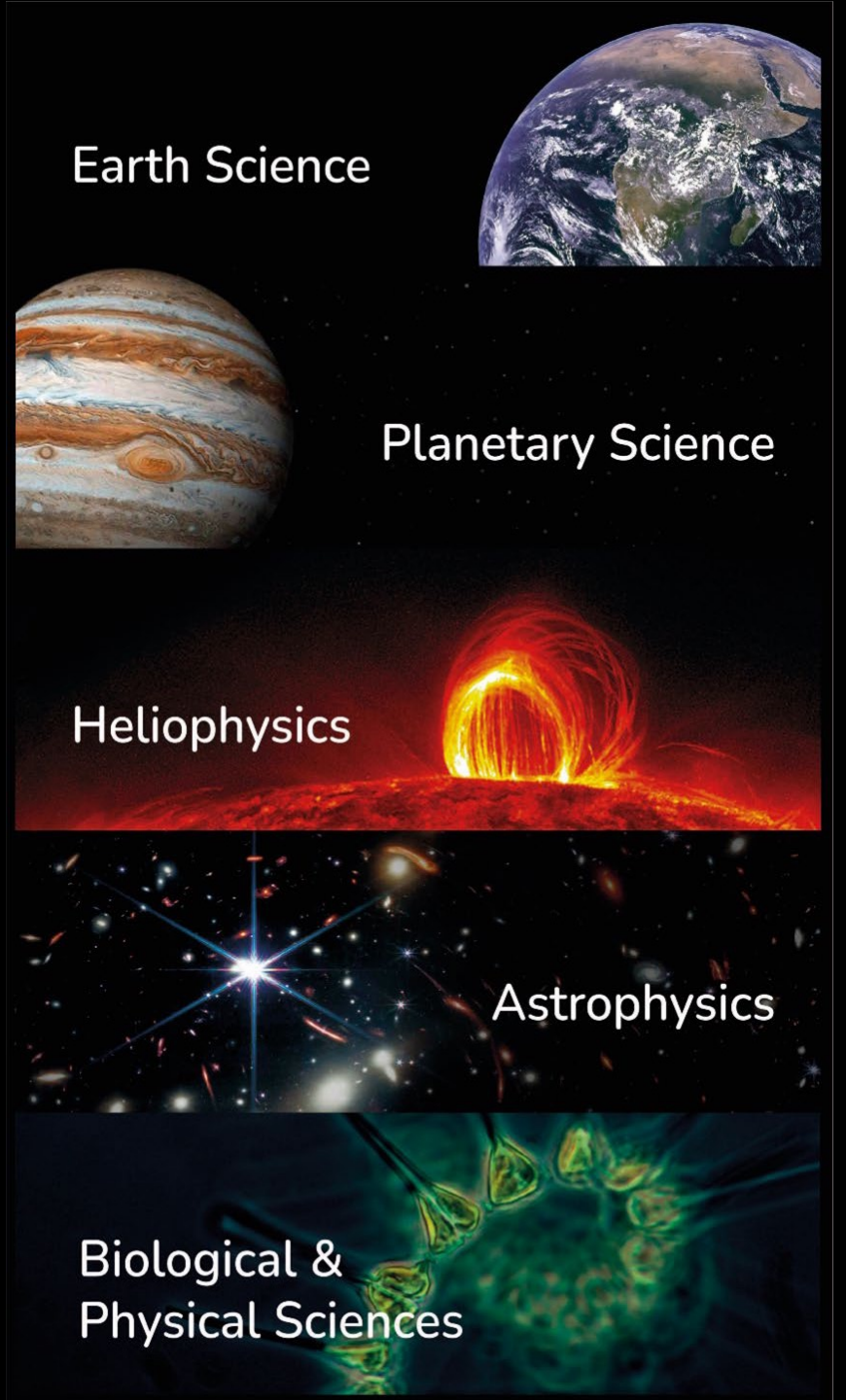


Why The Science Explorer (SciX)?

NASA's Science Mission Directorate in 2019 calls for the creation of **interdisciplinary literature portal** in support of Open Science.

Over the next three years, the ADS team will be developing and expanding the **The Science Explorer** to include all relevant **NASA content.**

Partner: NASA



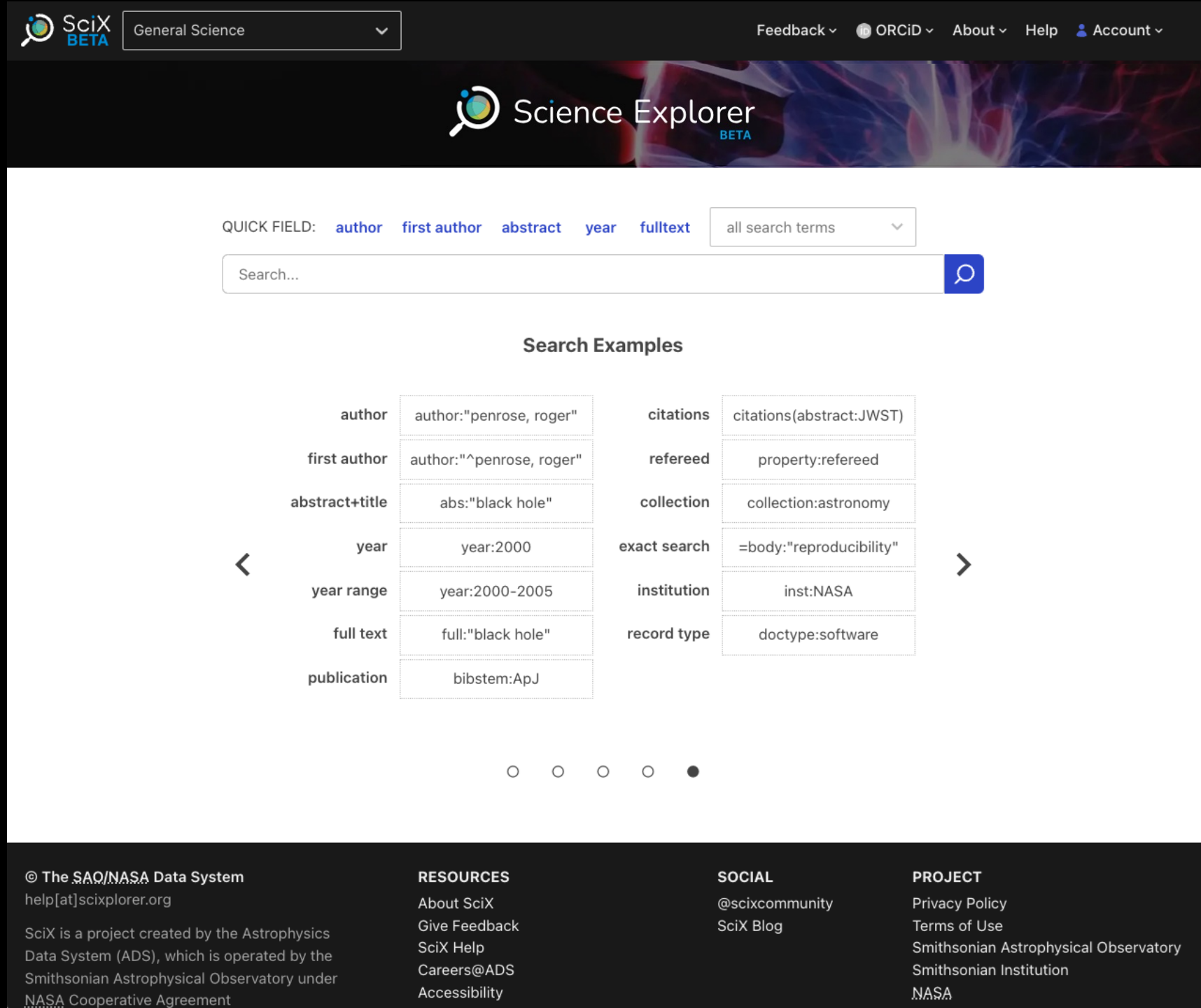
https://SciXplorer.org

What is The Science Explorer?

The Science Explorer, or SciX for short, is available as a beta release at the following website:

https://SciXplorer.org

While the system is still under development, it **already provides a wealth of information** and **functionality ready for use.**



Science Explorer BETA

QUICK FIELD: author first author abstract year fulltext all search terms

chara array

WELCOME TO THE SciX Digital Library

Learn more about the SciX digital library and how it can support your scientific research in this welcome video and brief user tutorial from Dr. Stephanie Jarmak.

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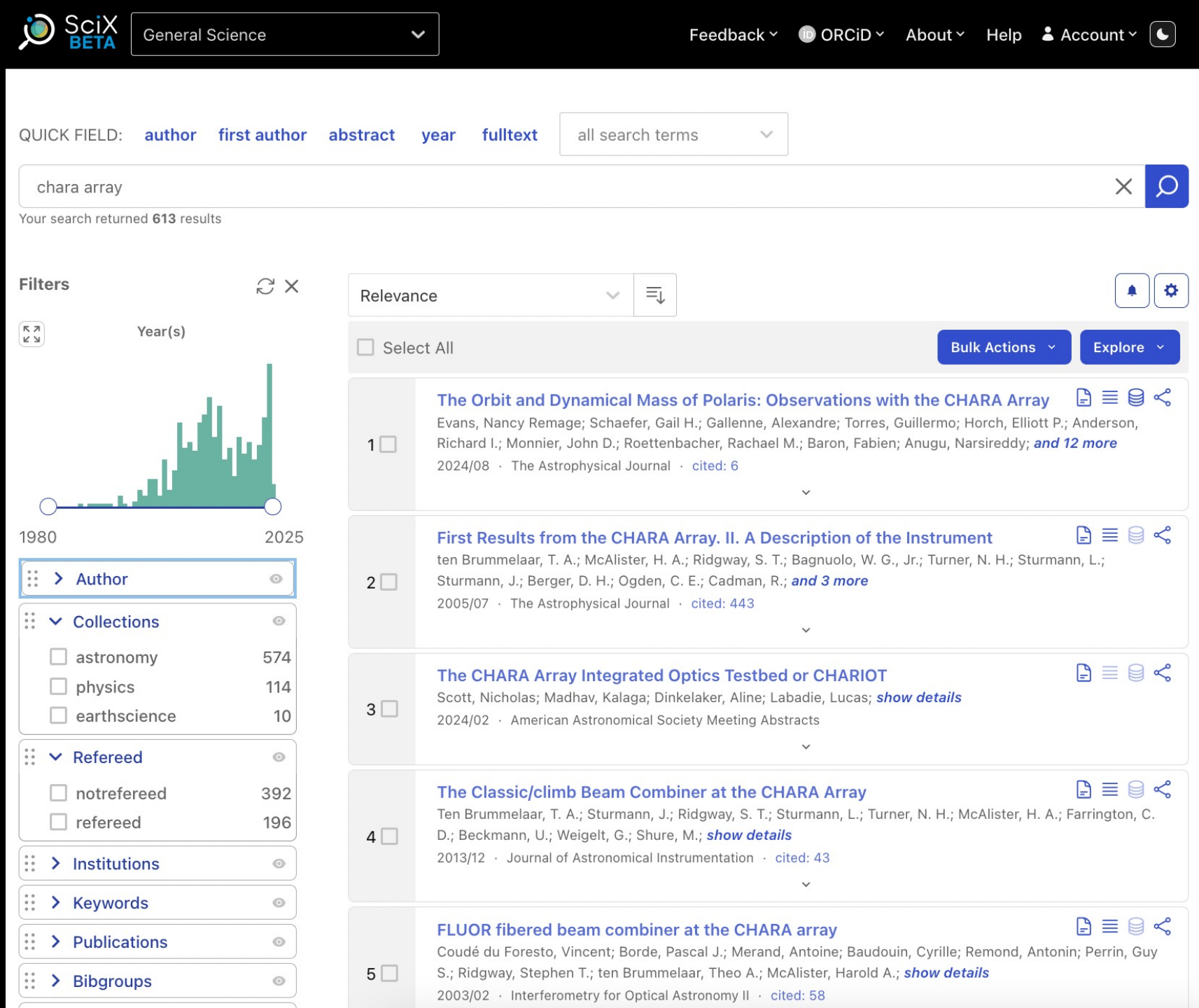
613 results, sorted by relevance



Example search:
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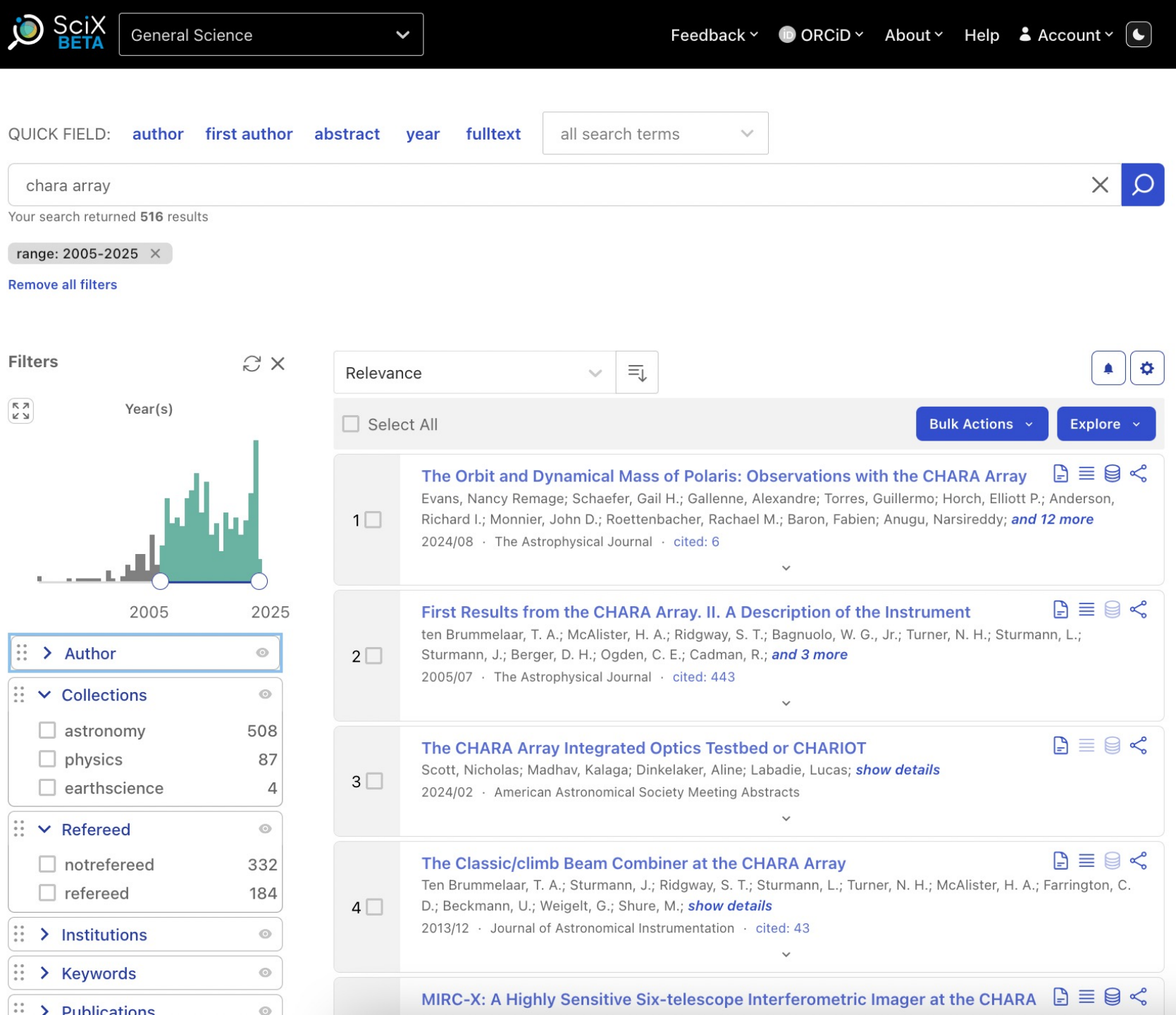
613 results, sorted by relevance
516 published in the last 20 years



Example search:
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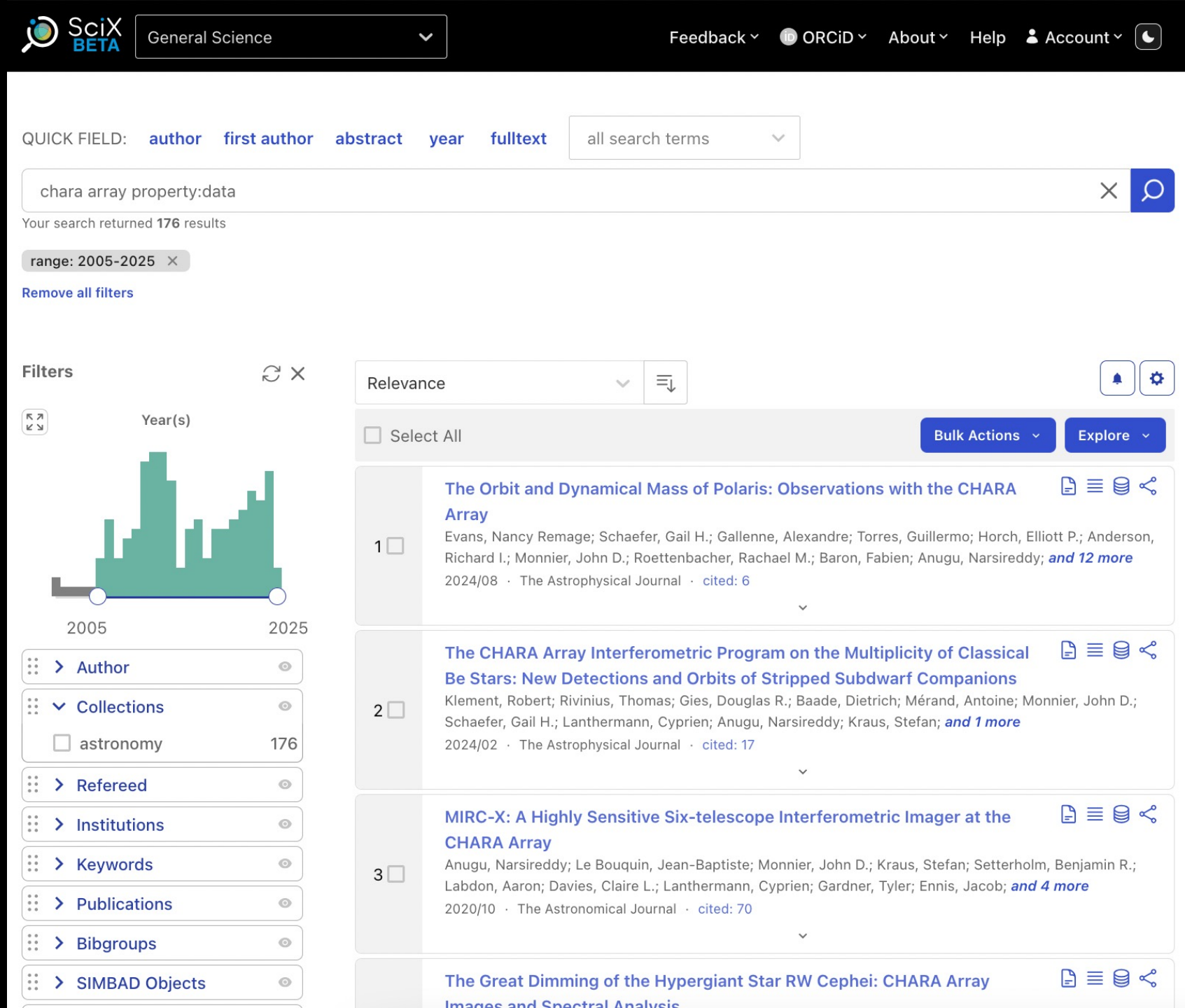
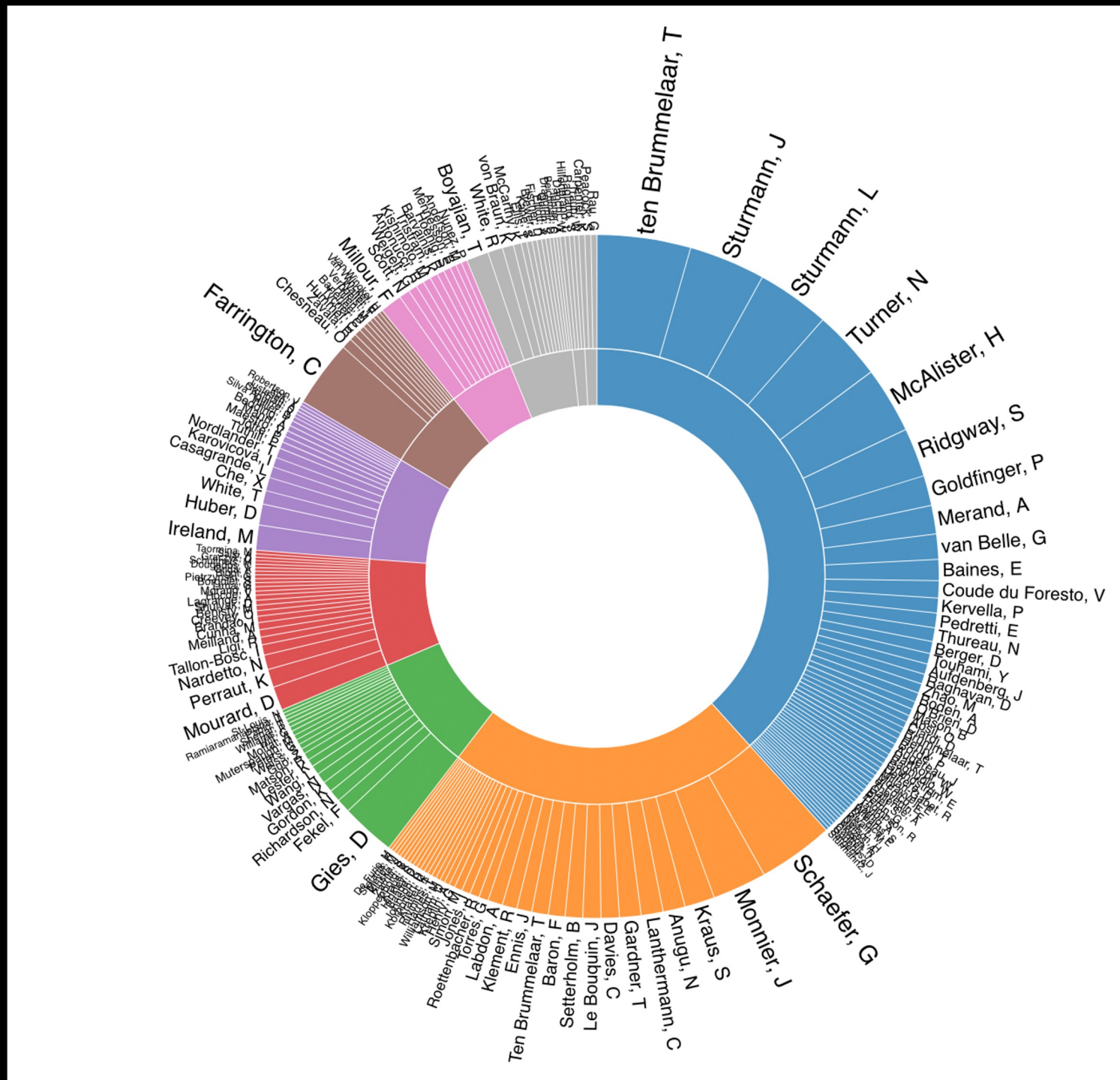
613 results, sorted by relevance
516 published in the last 20 years
176 with data products



Example search:
chara array

613 results, sorted by relevance
516 published in the last 20 years
176 with data products
8 collaboration groups detected



Example search:
chara array

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176 with data products
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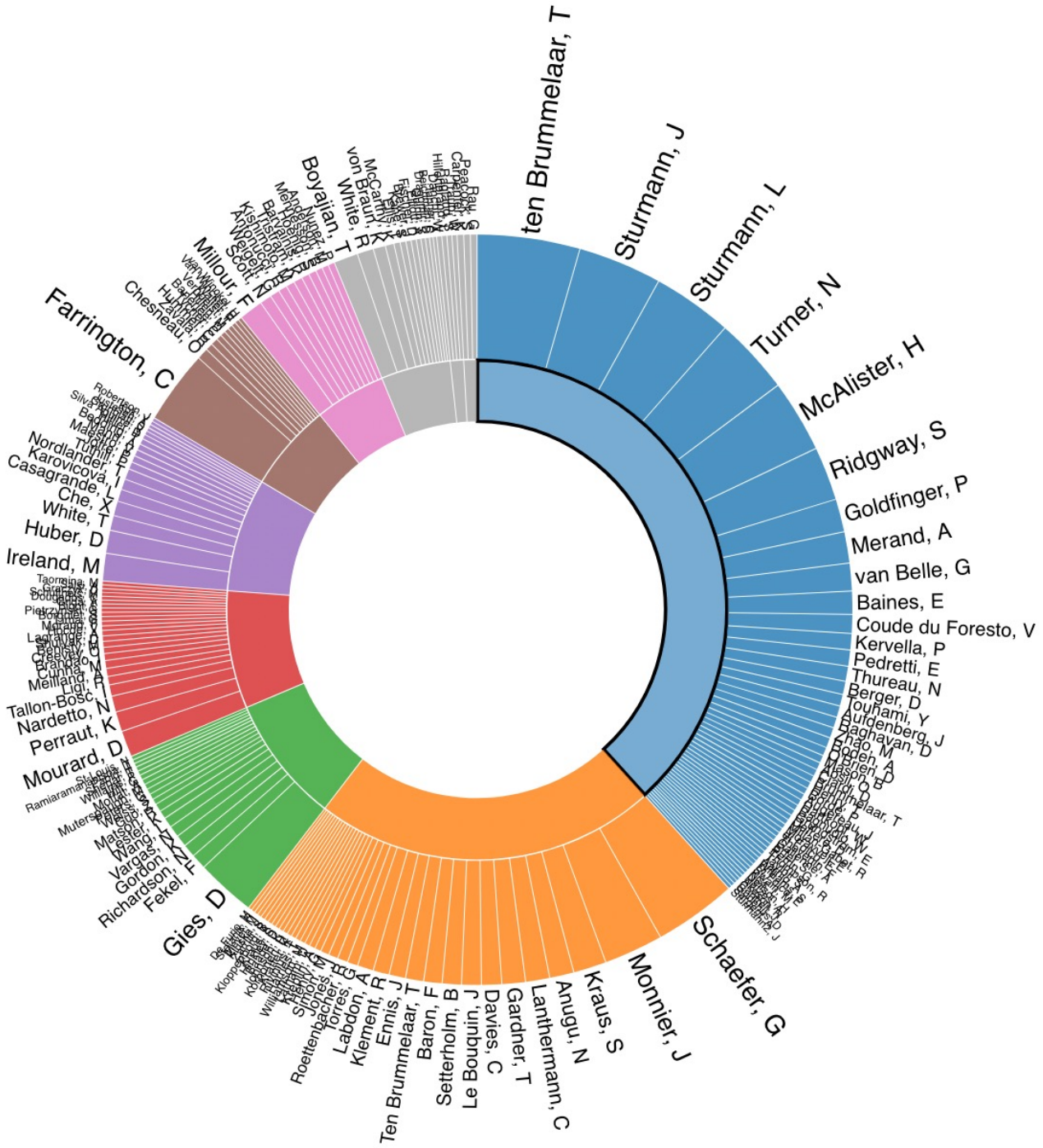
1 group selected



Example search:
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613 results, sorted by relevance
516 published in the last 20 years
176 with data products
8 collaboration groups detected
1 group selected
137 papers authored by group

Summary | Detail

Group 1

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Total papers: 137, most recent: 2025

First Results from the CHARA Array. VII. Long-Baseline Interferometric Measurements of Vega Consistent with a Pole-On, Rapidly Rotating Star
13 authors from this group cited: 174

Circumstellar material in the Vega inner system revealed by CHARA/FLUOR
14 authors from this group cited: 137

First Results from the CHARA Array. IV. The Interferometric Radii of Low-Mass Stars
10 authors from this group cited: 140

A near-infrared interferometric survey of debris disk stars. I. Probing the hot dust content around ε Eridani and τ Ceti with CHARA/FLUOR
14 authors from this group cited: 109

Stellar Diameters and Temperatures. II. Main-sequence K- and M-stars
11 authors from this group cited: 523

Extended envelopes around Galactic Cepheids. II. Polaris and δ Cephei from near-infrared interferometry with CHARA/FLUOR
12 authors from this group cited: 97

First Results from the CHARA Array. I. An Interferometric and Spectroscopic Study of the Fast Rotator α Leonis (Regulus)
12 authors from this group cited: 147

Colder and Hotter: Interferometric Imaging of β Cassiopeiae and α Leonis
10 authors from this group cited: 120

Example search:
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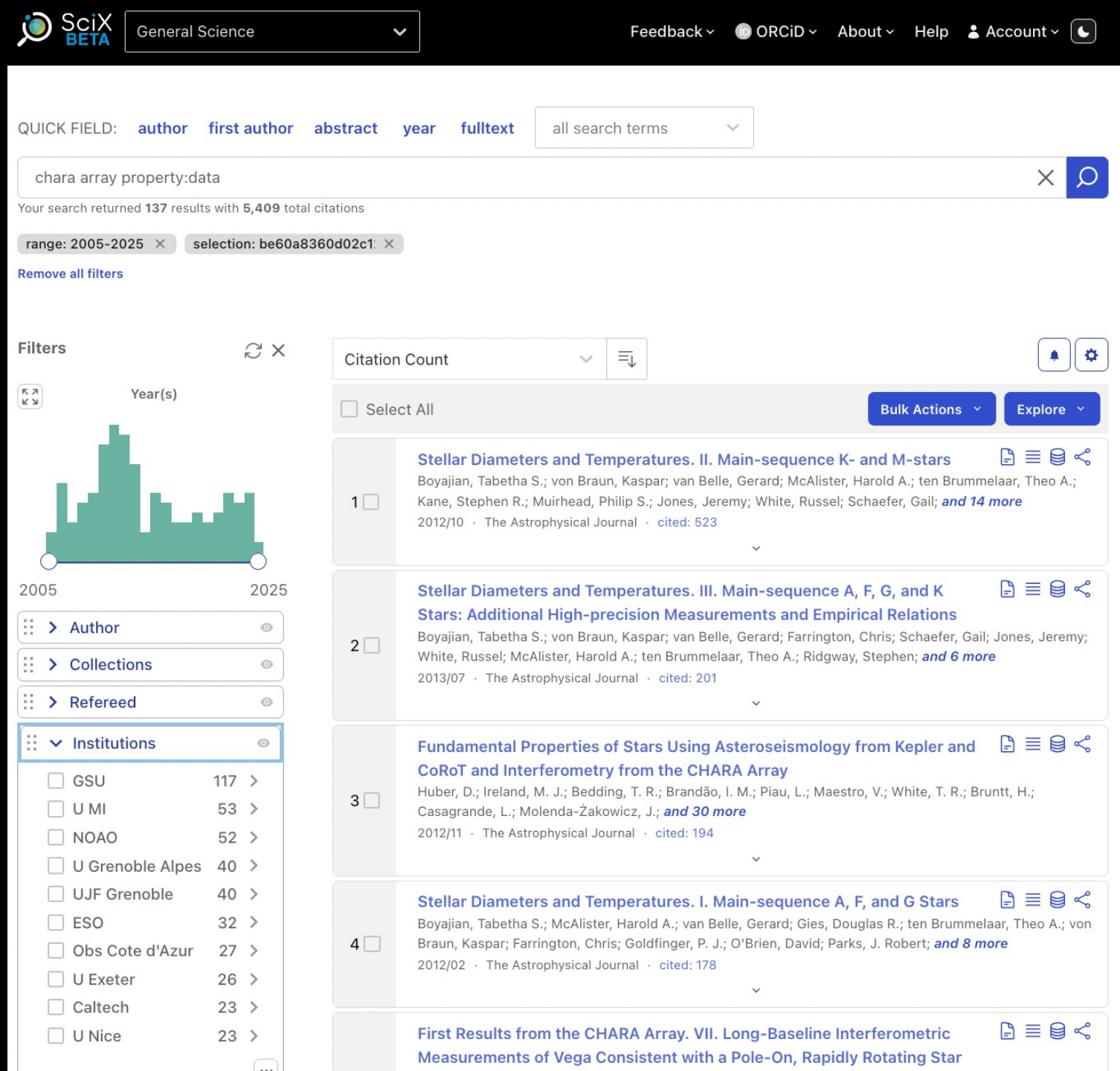
613 results, sorted by relevance
516 published in the last 20 years
176 with data products
8 collaboration groups detected
1 group selected
137 papers authored by group
View papers sorted by citations



Example search:
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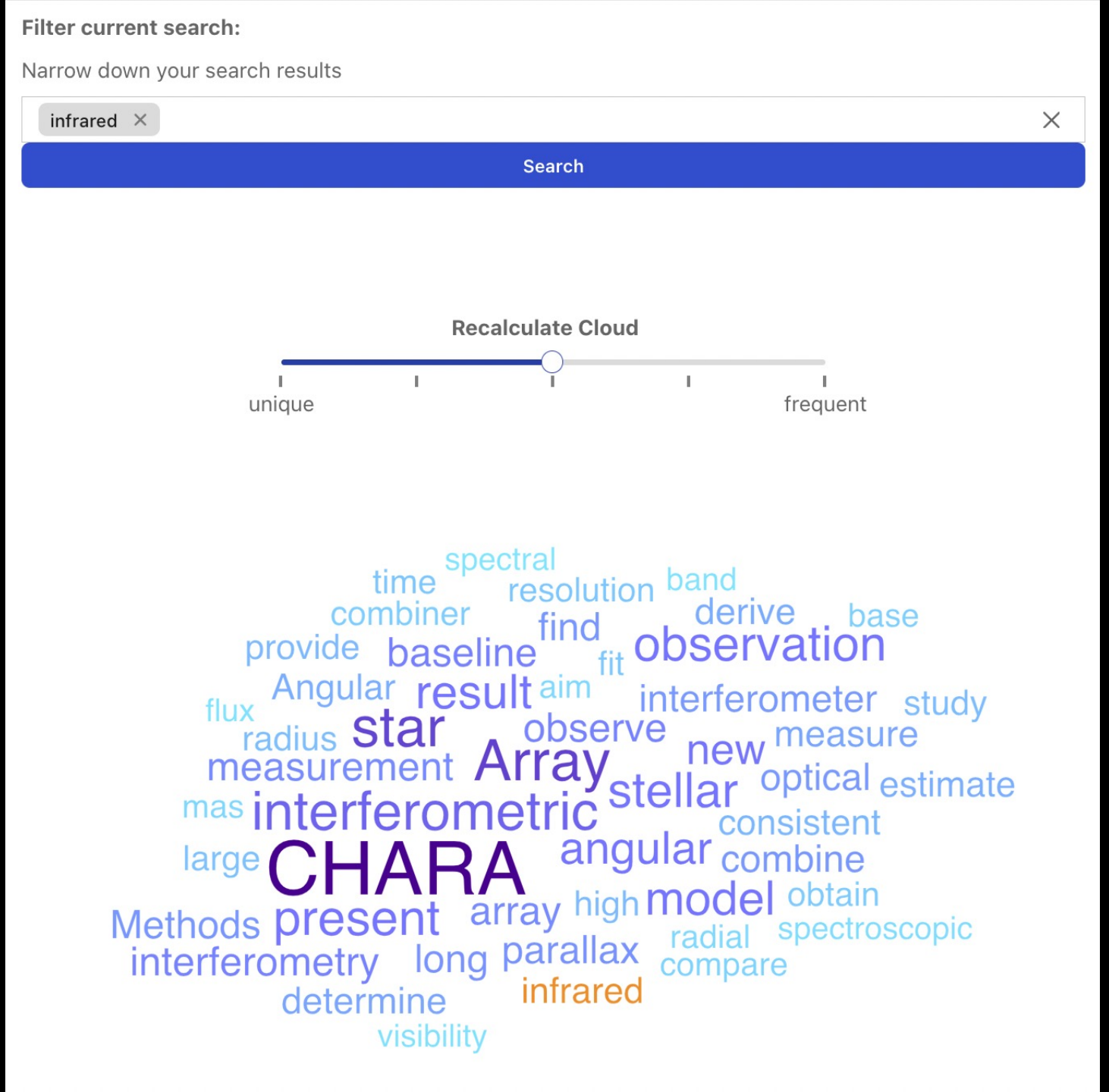
613 results, sorted by relevance
516 published in the last 20 years
176 with data products
8 collaboration groups detected
1 group selected
137 papers authored by group
View papers sorted by citations
View & select concepts in papers



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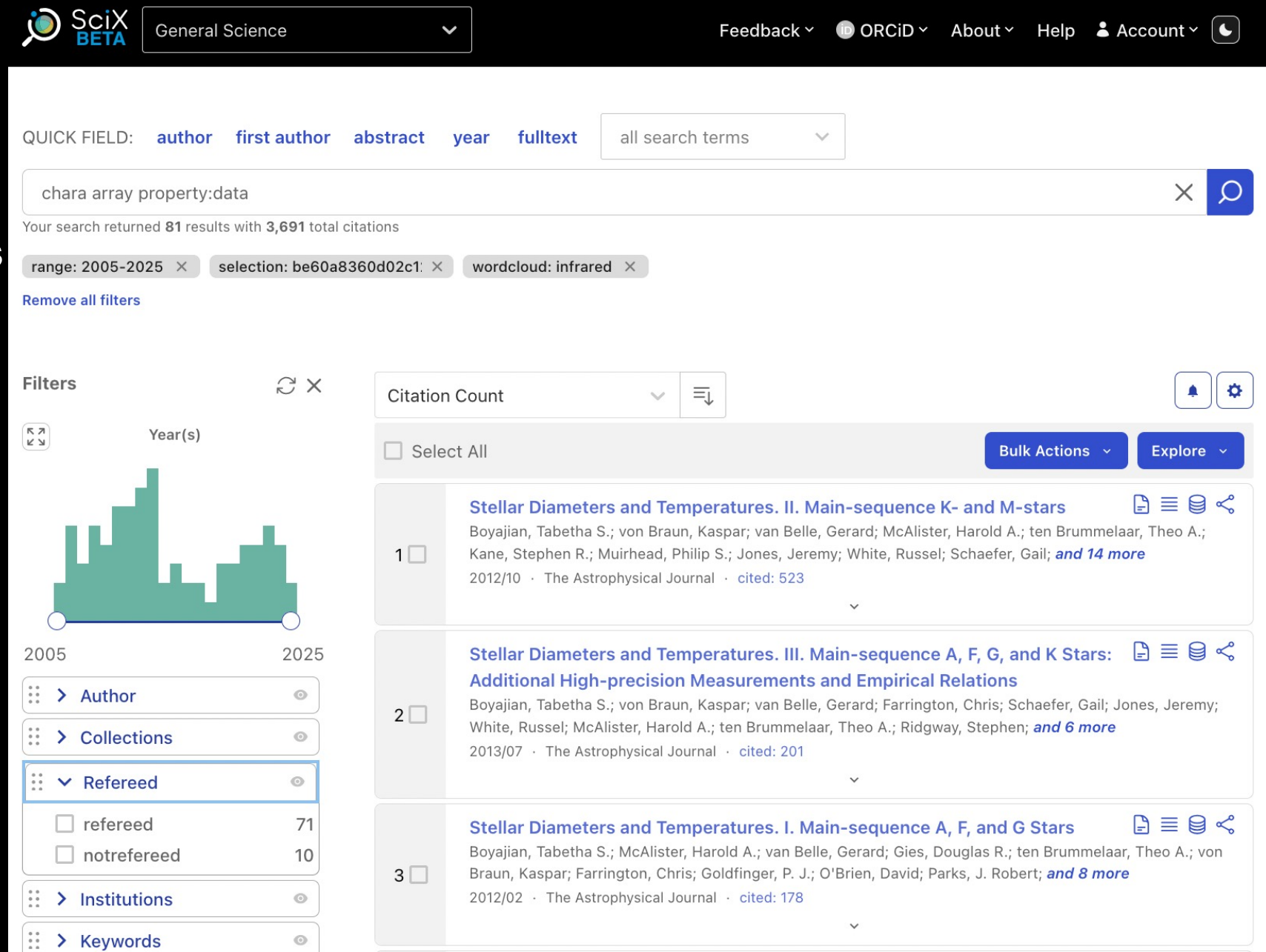
176 with data products
8 collaboration groups detected
1 group selected
137 papers authored by group
View papers sorted by citations
View & select concepts in papers
81 papers containing “infrared”



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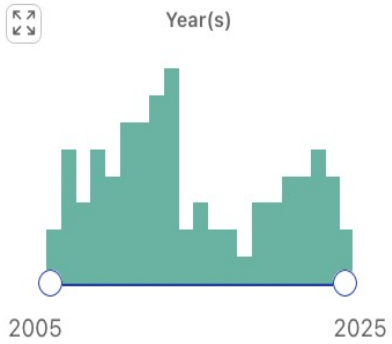
176 with data products
8 collaboration groups detected
1 group selected
137 papers authored by group
View papers sorted by citations
View & select concepts in papers
81 papers containing “infrared”
72 of which have SIMBAD data



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1 Stellar Diameters and Temperatures. II. Main-sequence K- and M-stars
Boyajian, Tabetha S.; von Braun, Kaspar; van Belle, Gerard; McAlister, Harold A.; ten Brummelaar, Theo A.; Kane, Stephen R.; Muirhead, Philip S.; Jones, Jeremy; White, Russel; Schaefer, Gail; *and 14 more*
2012/10 · The Astrophysical Journal · cited: 523

2 Stellar Diameters and Temperatures. III. Main-sequence A, F, G, and K Stars: Additional High-precision Measurements and Empirical Relations
Boyajian, Tabetha S.; von Braun, Kaspar; van Belle, Gerard; Farrington, Chris; Schaefer, Gail; Jones, Jeremy; White, Russel; McAlister, Harold A.; ten Brummelaar, Theo A.; Ridgway, Stephen; *and 6 more*
2013/07 · The Astrophysical Journal · cited: 201

3 Stellar Diameters and Temperatures. I. Main-sequence A, F, and G Stars
Boyajian, Tabetha S.; McAlister, Harold A.; van Belle, Gerard; Gies, Douglas R.; ten Brummelaar, Theo A.; von Braun, Kaspar; Farrington, Chris; Goldfinger, P. J.; O'Brien, David; Parks, J. Robert; *and 8 more*
2012/02 · The Astrophysical Journal · cited: 178

4 First Results from the CHARA Array. I. An Interferometric and Spectroscopic Study of the Fast Rotator α Leonis (Regulus)
McAlister, H. A.; ten Brummelaar, T. A.; Gies, D. R.; Huang, W.; Bagnuolo, W. G., Jr.; Shure, M. A.; Sturmann, J.; Sturmann, L.; Turner, N. H.; Taylor, S. F.; *and 6 more*
2005/07 · The Astrophysical Journal · cited: 147

5 First Results from the CHARA Array. IV. The Interferometric Radii of Low-Mass Stars
Berger, D. H.; Gies, D. R.; McAlister, H. A.; ten Brummelaar, T. A.; Henry, T. J.; Sturmann, J.; Sturmann, L.; N. H.; Ridgway, S. T.; Aufdenberg, J. P.; *and 1 more*
6 · The Astrophysical Journal · cited: 140

6 Circumstellar material in the Vega inner system revealed by CHARA/FLUOR
Absil, O.; di Folco, E.; Mérand, A.; Augereau, J. -C.; Coudé du Foresto, V.; Aufdenberg, J. P.; Kervella, P.; Ridgway, S. T.; Berger, D. H.; ten Brummelaar, T. A.; *and 4 more*
2006/06 · Astronomy and Astrophysics · cited: 137

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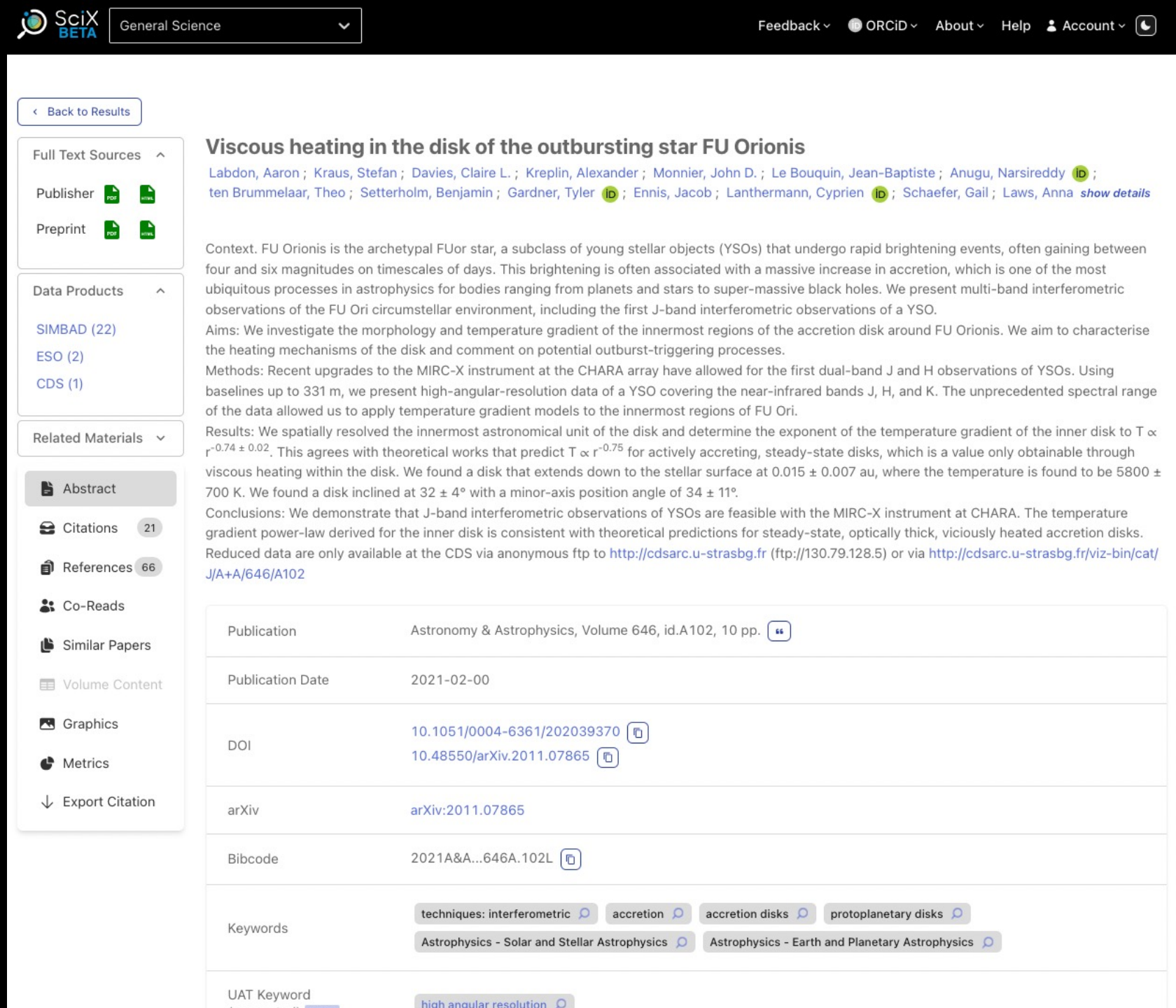

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2021A&A...646A.102L

Query : 2021A&A...646A.102L

2021A&A...646A.102L - *Astronomy and Astrophysics, volume 646A102-102 (2021/2-1)*

Viscous heating in the disk of the outbursting star FU Orionis.

LABDON A., KRAUS S., DAVIES C.L., KREPLIN A., MONNIER J.D., LE BOUQUIN J.-B., ANUGU N., TEN BRUMMELAAR T., SETTERHOLM B., GARDNER T., ENNIS J., LANTHERMANN C., SCHAEFER G. and LAWS A.

Abstract (from CDS):

Context. FU Orionis is the archetypal FUor star, a subclass of young stellar objects (YSOs) that undergo rapid brightening events, often gaining between four and six magnitudes on timescales of days. This brightening is often associated with a massive increase in accretion, which is one of the most ubiquitous processes in astrophysics for bodies ranging from planets and stars to super-massive black holes. We present multi-band interferometric observations of the FU Ori circumstellar environment, including the first J-band interferometric observations of a YSO.
Aims. We investigate the morphology and temperature gradient of the innermost regions of the accretion disk around FU Orionis. We aim to characterise the heating mechanisms of the disk and comment on potential outburst-triggering processes.
Methods. Recent upgrades to the MIRC-X instrument at the CHARA array have allowed for the first dual-band J and H observations of YSOs. Using baselines up to 331m, we present high-angular-resolution data of a YSO covering the near-infrared bands J, H, and K. The unprecedented spectral range of the data allowed us to apply temperature gradient models to the innermost regions of FU Ori.
Results. We spatially resolved the innermost astronomical unit of the disk and determine the exponent of the temperature gradient of the inner disk to $T \propto r^{-0.74 \pm 0.02}$. This agrees with theoretical works that predict $T \propto r^{-0.75}$ for actively accreting, steady-state disks, which is a value only obtainable through viscous heating within the disk. We found a disk that extends down to the stellar surface at 0.015±0.007au, where the temperature is found to be 5800±700K. We found a disk inclined at 32±4° with a minor-axis position angle of 34±11°.
Conclusions. We demonstrate that J-band interferometric observations of YSOs are feasible with the MIRC-X instrument at CHARA. The temperature gradient power-law derived for the inner disk is consistent with theoretical predictions for steady-state, optically thick, viciously heated accretion disks.

Journal keyword(s): *techniques: interferometric - accretion, accretion disks - protoplanetary disks*

VizieR on-line data: <Available at CDS (J/A+A/646/A102): list.dat fits/*>

Simbad objects: 22

▶ Full paper

▶ View the references in ADS

Number of rows : 22

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2	* rho Tau	dS*	04 33 50.9178322656	+14 50 39.941657592	4.98	4.90	4.65	4.41	4.29	A8V	233	0
3	HD 28855	*	04 34 00.4750621824	+31 12 09.077621292		9.59	8.51			K0III	19	0
4	* iot Tau	**	05 03 05.7465241272	+21 35 23.860305924		4.797	4.615			A7V	180	0
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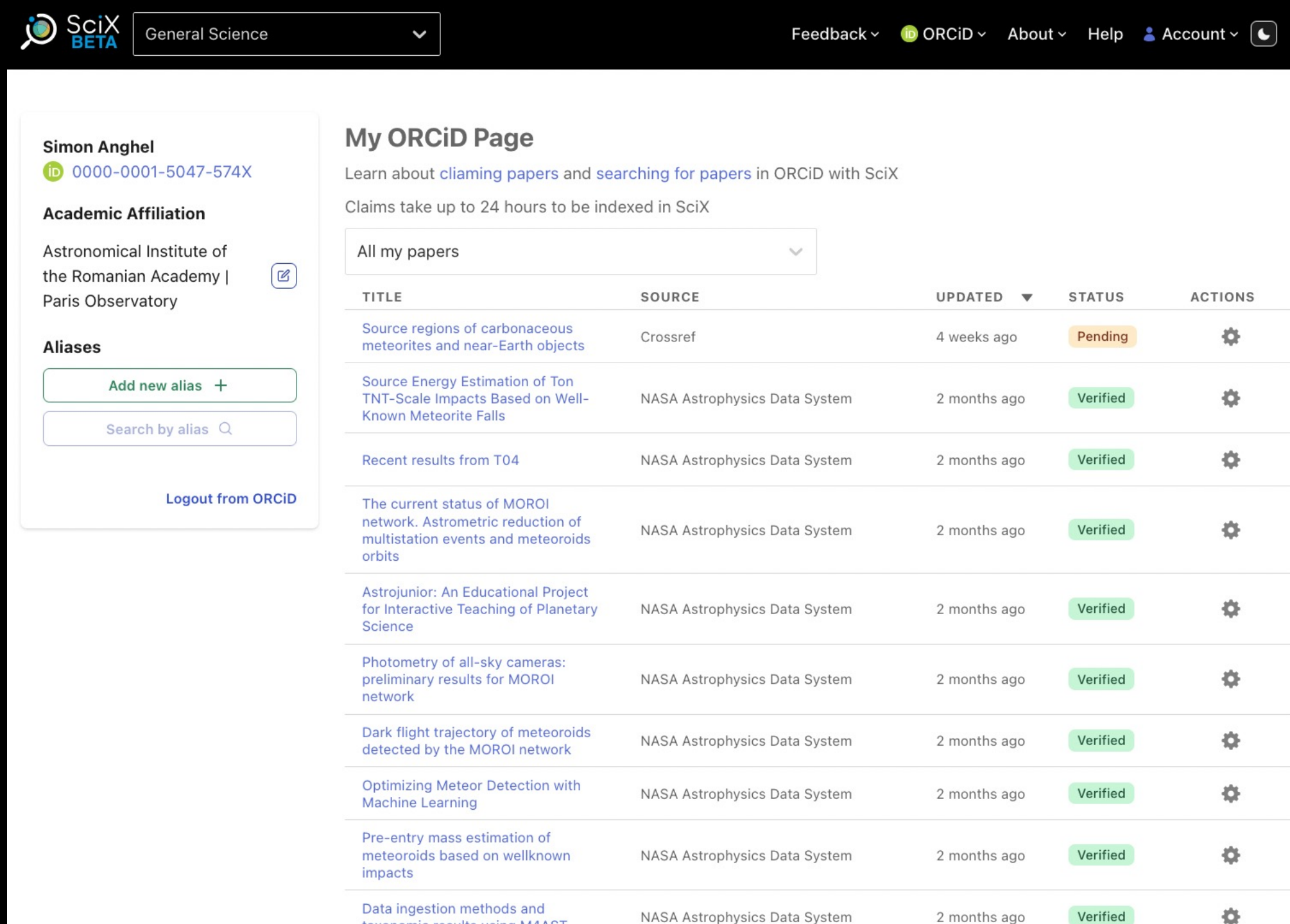

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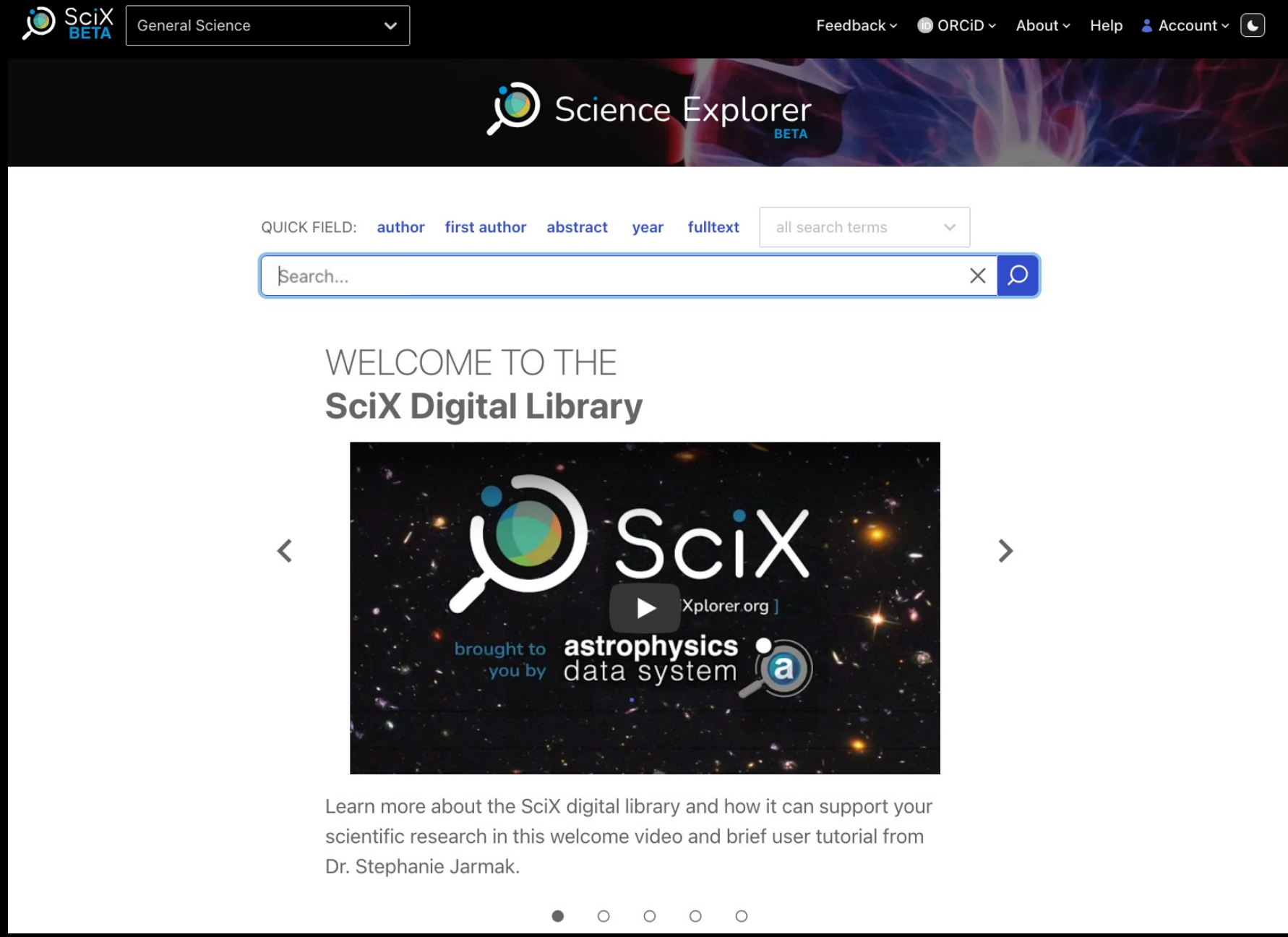

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SciX

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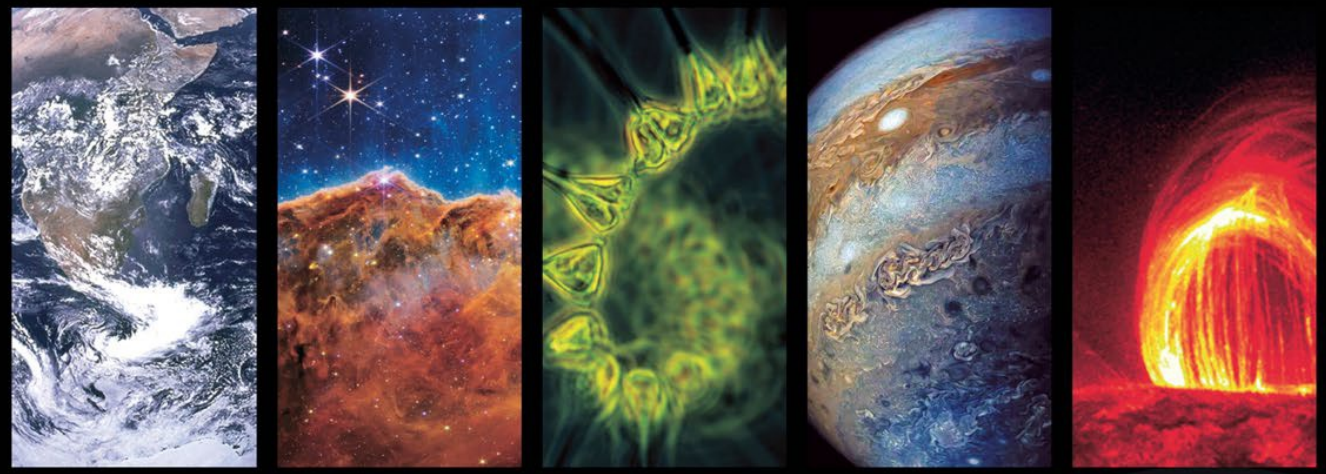

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Accelerating the discovery of NASA Science.

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Simon.Anghel@astro.ro

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