zbMATH

The world's largest database for mathematics offers easy access to article reviews and abstracts in mathematics from the 19th century to the present

The amount of scientific information and publication in the field of mathematics and its applications has immensely grown over the last decades. This increases the need of scholars, scientists and librarians to have a comprehensive resource of curated information on knowledge in all mathematical disciplines.

zbMATH, well known under its former name Zentralblatt MATH, provides easy access to bibliographic data, reviews and abstracts from all areas of pure and applied mathematics, as well as its applications, in particular to the natural sciences, computer science, economics and engineering. It also covers history and philosophy of mathematics and university education. All entries are classified according to the Mathematics Subject Classification Scheme (MSC 2010) and are supplemented with keywords in order to characterize their particular content and to allow for efficient retrieval.

Editor-in-Chief

Gert-Martin Greuel, the former director of the world-famous Mathematical Research Centre, Oberwolfach, Professor at the University of Kaiserslautern, and Chair of ERCOM (European Research Centres on Mathematics).
greuel@zentralblatt-math.org

zbmath.org

Key Features

- Over 3 million publication records from more than 3,000 current journals and serials, and 170,000 books, from 1868 to the present
- New content daily, with about 120,000 additions per year
- Rigorous editorial process where all entries are semantically enriched with appropriate MSC codes and keywords
- Independent reviews contributed by 7,000 global expert mathematicians, supplementing the majority of records in core mathematics areas
- Direct links to open repositories and digital libraries like arXiv.org, EuDML, Numdam

- Author name disambiguation and author profiles with information on the publication record, scientific networks and publication topics
- Display and cross-linking of several million references highlighting citation relations between records
- Integrated MathML (Mathematics Markup Language) that enables the immediate display of mathematical equations and formulae
- Semantic enrichment of the data and addition of complementary facets such as mathematical software

Anticipating the future of scholarly communication

In today's dynamically changing publication landscape, new types of information are becoming important. Bibliographical services, no longer mere repositories of metadata, must answer questions pertaining to scientific networks, authorships and semantic interrelations. zbMATH meets the needs of today's mathematicians by presenting this multifaceted information quickly and easily. The new interface, zbmath.org, combines deep search capabilities with a user friendly and intuitive design. The comprehensive abstract information is supplemented by links to the original source documents, open repositories, and digital libraries, bringing the world of mathematics to every user's fingertips.

Selected Subject Areas

- Mathematical logic
- Combinatorics
- Ordered structures
- Number theory
- Field theory and polynomials
- Commutative algebra
- Algebraic geometry
- Associative rings and algebras
- Nonassociative rings and algebras
- Category theory, homological algebra
- K-theory
- Group theory and generalizations
- Topological groups, Lie groups
- Real functions
- Measure and integration
- Complex analysis and analytic spaces

- Potential theory
- Special functions
- Ordinary differential equations (ODE)
- Partial differential equations (PDE)
- Dynamical systems and ergodic theory
- Difference and functional equations
- Sequences, series, summability
- Approximations and expansions
- Harmonic analysis on Euclidean spaces
- Abstract harmonic analysis
- Integral transforms
- Integral equations
- Functional analysis
- Operator theory
- Calculus of variations and optimal control

- Convex and discrete geometry
- Differential geometry
- Algebraic topology
- Manifolds and cell complexes
- Global analysis, analysis on manifolds
- Probability theory and statistics
- Numerical analysis
- Theoretical computer science
- Mathematical physics
- Operations research, optimization, mathematical programming
- Game theory
- Applications to economics, social sciences and engineering
- Mathematical biology
- Mathematical education

zbMATH – an innovative web service

The powerful search capabilities of zbMATH are embedded in a cutting-edge interface

Clean Google-like interface, with separated tabs for easy navigation among different search facets: documents, authors, journals, classification codes and software

Expand the structured search option for more powerful control over the search
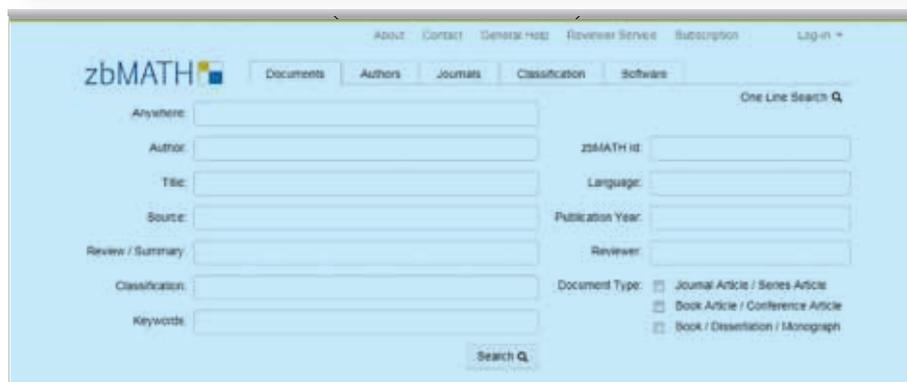
Filters for efficient retrieval
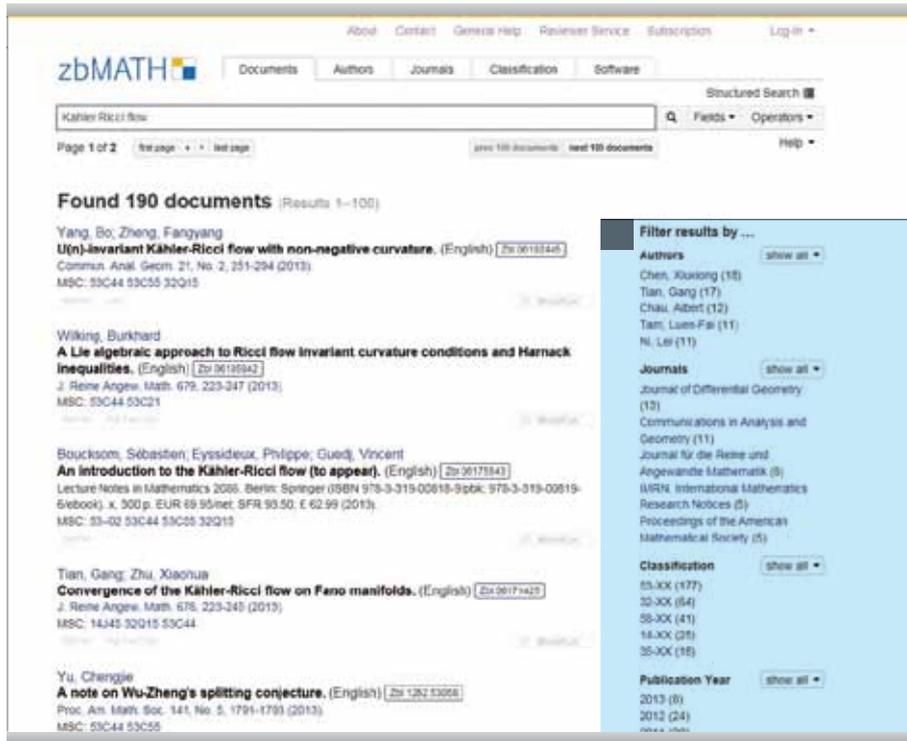
The new filter function helps you refine your original search as well as formulate complex queries. Now you can focus down to an unprecedented granular level, and locate the exact publication you are looking for

Search results can be filtered by authors, journals, classification codes and publication years, ordered according to frequency of citation

You can use the filter for requests like determining the most prolific authors in the top mathematics journals or analyzing how research topics have evolved over the years

Display of a single record

All bibliographic information is displayed in a clean and comprehensible way

Complex formulae and diagrams are shown in MathML or MathJax for correct, browser-independent visualization

Cited publications are matched with the zbMATH database, providing a direct link to relevant literature

External experts provide their independent point of view with a review of the publication

Appropriate codes from the MSC classification scheme and keywords contribute to the semantic enrichment of the records
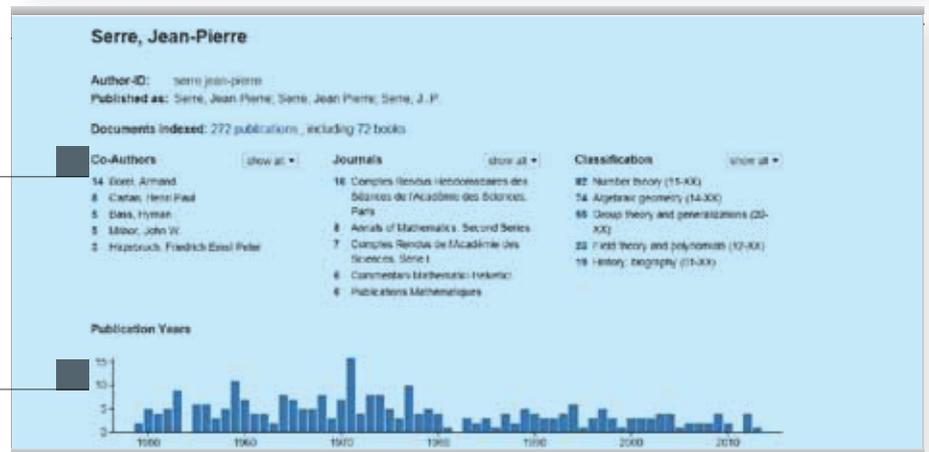
Multiple links for full text records, including to publishers via DOI as well as to full-text open repositories and digital libraries

Author Search and Author Profile

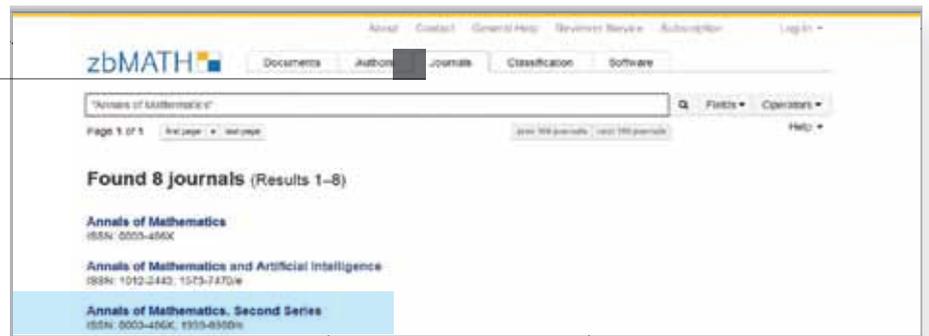Dedicated tab for author search queries

Breakdown according to coauthors, journals and mathematical subjects

Publications are displayed in chronological order as a clickable diagram for easy visualization of the author's scientific output

Journal Profile

Dedicated search tab for journal searches, especially appreciated by librarians
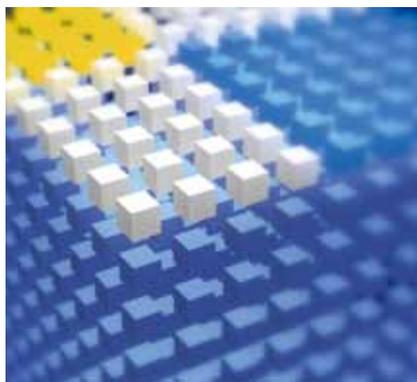

Direct link to search results of filtered queries, e.g. clicking on an author's name shows her or his author profile, while the number to its left leads to the corresponding documents
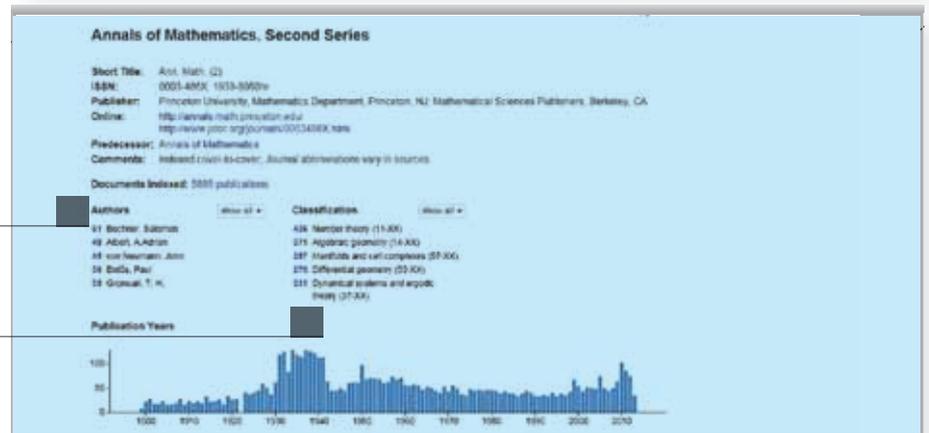
Breakdown of most profilic authors and research fields by journal

Benefits for mathematicians

- Always rely on zbMATH for the latest search results, as content items are uploaded daily.
- Search results are comprehensive, with items categorized by MSC codes, keywords, etc.
- Refine your search with intuitive filters and logical operators, and formulate complex search queries with ease.
- Quick, accurate and complete equation formatting of complex formulae is facilitated by the integrated MathML or MathJax font rendering system.
- Navigate to the source material to view further information and full texts, if available to you.
- Find aggregated information on authors and their networks. View research trends and publication histories on authors and research topics.
- Benefit from the extraction of additional useful information like mathematical software.

Benefits for librarians

- Offer your researchers the world's most complete database in mathematics, containing reviews and abstracts from the 19th century to the present.
- Be confident that your data will always be up-to-date, as content is uploaded daily.
- Benefit from increased exposure to all mathematical content you subscribed to, as search results within zbMATH will link to your other full text resources, for example, SpringerLink.
- Your patrons can quickly check access to the full text via OpenURL/SFX functionality.
- Use the profile information, e.g. the journal profiles, for your own decision making processes.
- 24/7 access for an unlimited number of simultaneous users. No limitations on the content.

zbMATH: The first resource for mathematics

Licensing Models and Availability

Unlimited simultaneous access to zbMATH is available based on a calendar year. Subscription includes an optional backup CD-ROM.

Usage Statistics

Free detailed statistics in COUNTER format are available for all subscribers.

Trials

New customers are eligible for 60-day trial. Some restrictions may apply.

Would you like to know more?
Visit **springer.com/salescontacts** to find your local Springer representative, or email
libraryrelations@springer.com

Contact us