



# SIAM数据库使用指南

iGroup China

siam.®



## 1. 关于SIAM 出版社

**SIAM (Society for Industry and Applied Mathematics)**

- 工业和应用数学学会 (SIAM) 于二十世纪五十年代前期在美国成立，是一个以促进**应用和计算数学**的研究、发展、应用为目的的协会。
- SIAM拥有14,000+个人会员，由来自世界各国的应用和计算数学家、计算机科学家、工程师、统计学家和数学教育者组成。
- SIAM拥有500多个机构会员，由大学，公司和研究机构组成。
- SIAM以出版高水准和颇具声誉的期刊而自豪。是公认的数学专业领域里最可靠的知识来源。

## 2/1. SIAM数据库出版物总览



## 2/2. SIAM 期刊品质

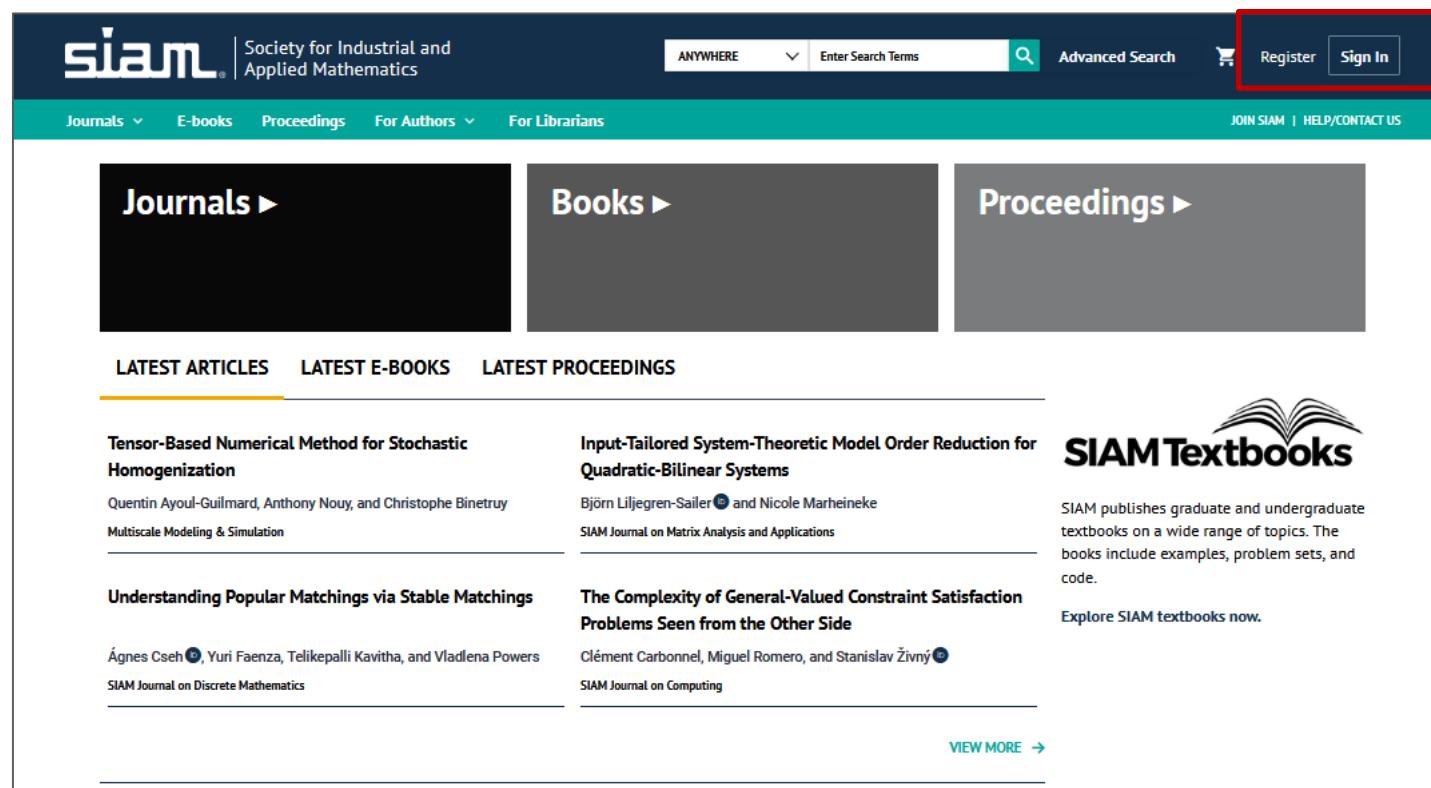
- SIAM出版的18本期刊，均是同行评审期刊，除了2019新刊外，其他期刊均被 JCR收录
- SIAM Review 在“应用数学”领域265种被JCR收录的期刊中连续5年排名第一



- 在“应用数学”领域265种期刊的影响因子排名中，SIAM的期刊占据了前50名中的8席
- 在“应用数学”领域里的SIAM期刊，其文章被引用量高达97,000多次；

### 3. SIAM数据库使用平台

➤ 访问网址：<https://pubs.siam.org>

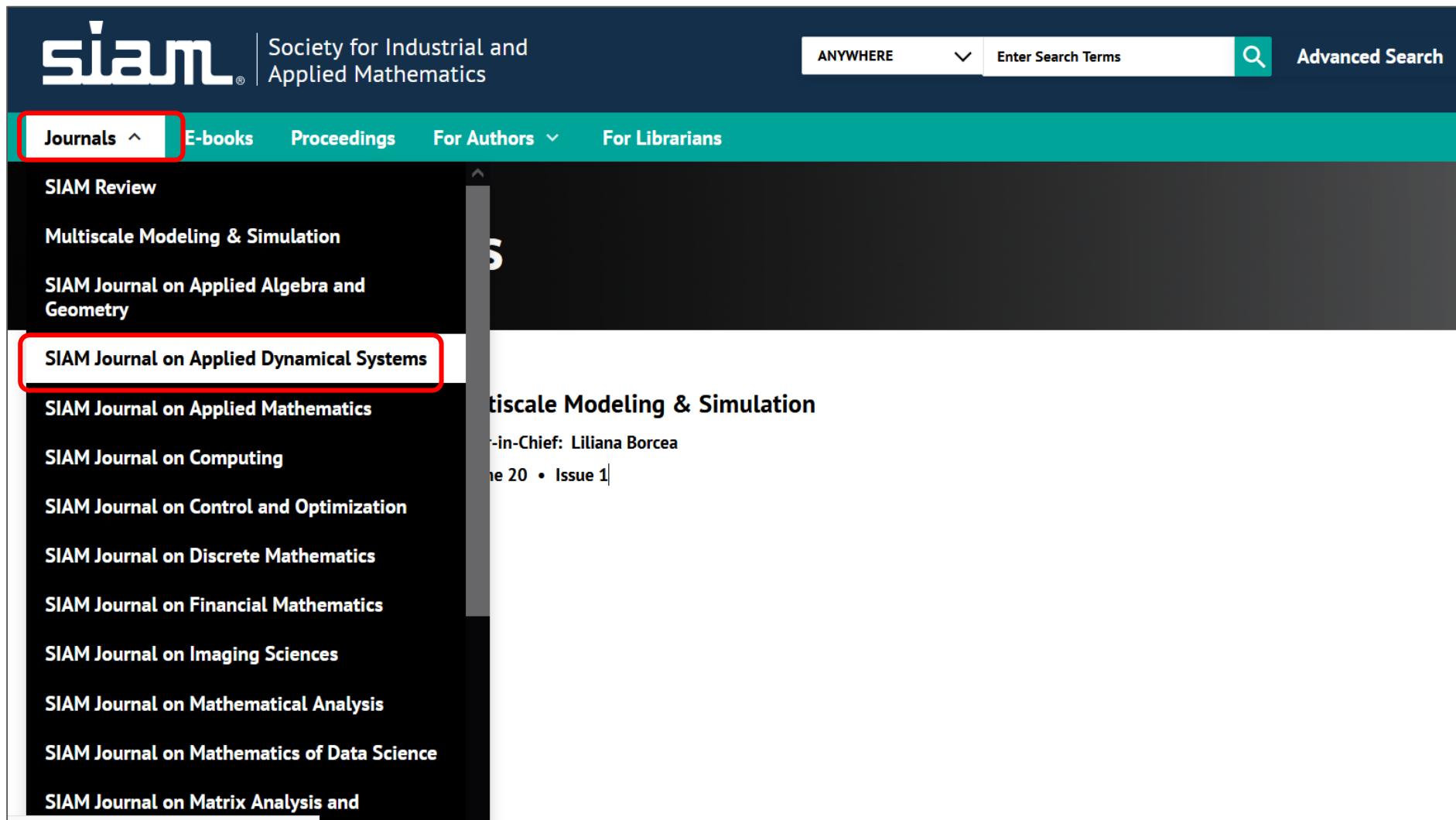


The screenshot shows the official website of the Society for Industrial and Applied Mathematics (SIAM). At the top, there is a dark header bar with the SIAM logo and the text "Society for Industrial and Applied Mathematics". Below the header is a teal navigation bar with links for "Journals", "E-books", "Proceedings", "For Authors", and "For Librarians". On the right side of the teal bar are "JOIN SIAM" and "HELP/CONTACT US" links. The main content area features three large buttons: "Journals ►", "Books ►", and "Proceedings ►". Below these buttons are three sections: "LATEST ARTICLES", "LATEST E-BOOKS", and "LATEST PROCEEDINGS". Each section displays a thumbnail image and a title. The "LATEST ARTICLES" section includes "Tensor-Based Numerical Method for Stochastic Homogenization" by Quentin Ayoul-Guilmaud, Anthony Nouy, and Christophe Biennetruy from Multiscale Modeling & Simulation. The "LATEST E-BOOKS" section includes "Input-Tailored System-Theoretic Model Order Reduction for Quadratic-Bilinear Systems" by Björn Liljegren-Sailer and Nicole Marheineke from SIAM Journal on Matrix Analysis and Applications. The "LATEST PROCEEDINGS" section includes "Understanding Popular Matchings via Stable Matchings" by Ágnes Cseh, Yuri Faenza, Telikepalli Kavitha, and Vladlena Powers from SIAM Journal on Discrete Mathematics. At the bottom of the page is a "VIEW MORE →" link.

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- ✓ 添加文章到个人文件夹
- ✓ 设置新文章提醒功能

# 3/1. 期刊浏览



The screenshot shows the homepage of the Society for Industrial and Applied Mathematics (SIAM). The top navigation bar includes links for Journals, E-books, Proceedings, For Authors, and For Librarians. A search bar allows users to search "ANYWHERE" or use "Advanced Search". The main content area displays a list of SIAM journals, with "SIAM Journal on Applied Dynamical Systems" highlighted by a red box. To the right, a preview of the "Multiscale Modeling & Simulation" journal is shown, featuring its volume 20, issue 1, and editor-in-chief Liliana Borcea.

ANYWHERE  Enter Search Terms

Advanced Search

Journals ^ E-books Proceedings For Authors For Librarians

SIAM Review

Multiscale Modeling & Simulation

SIAM Journal on Applied Algebra and Geometry

SIAM Journal on Applied Dynamical Systems

SIAM Journal on Applied Mathematics

SIAM Journal on Computing

SIAM Journal on Control and Optimization

SIAM Journal on Discrete Mathematics

SIAM Journal on Financial Mathematics

SIAM Journal on Imaging Sciences

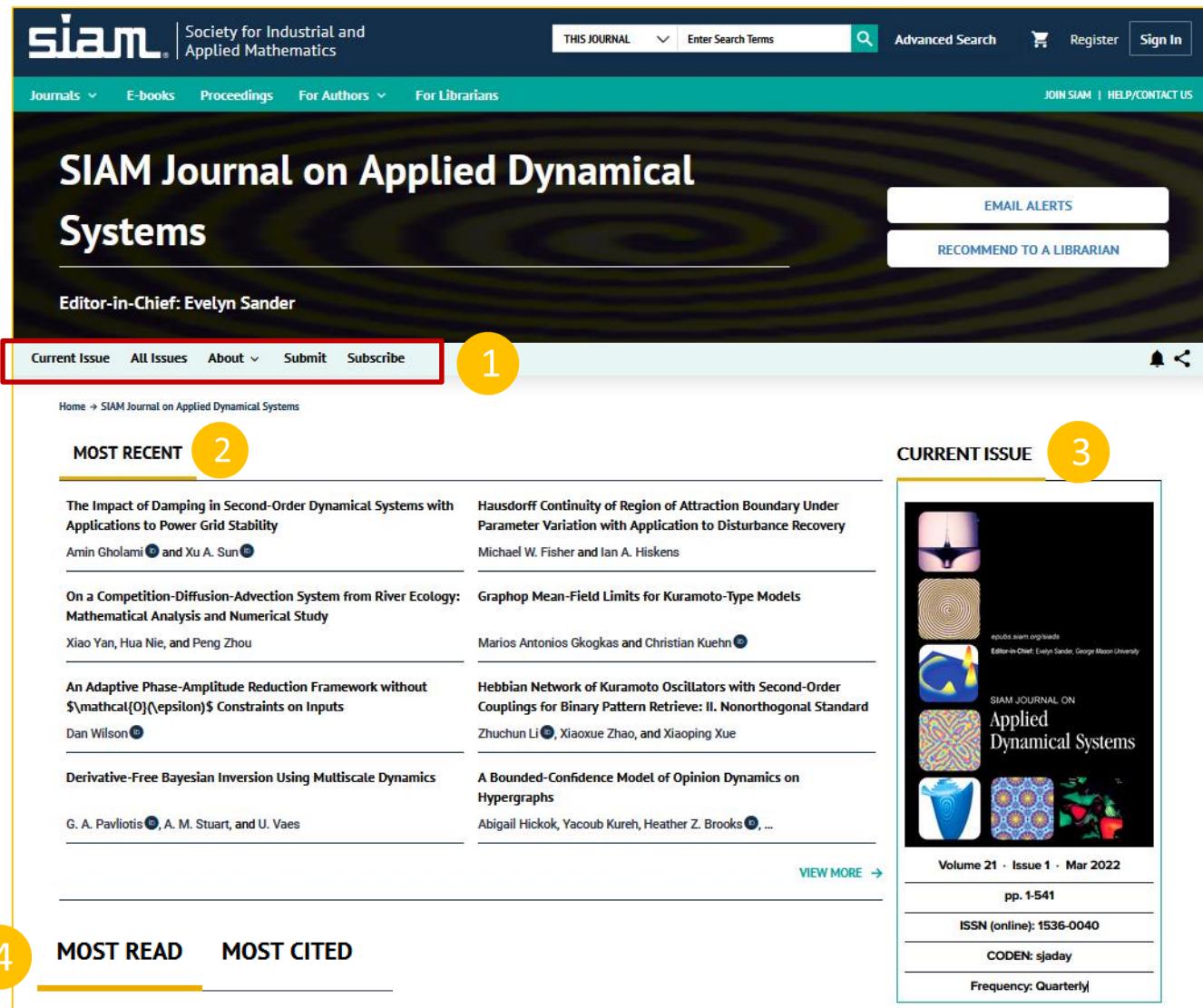
SIAM Journal on Mathematical Analysis

SIAM Journal on Mathematics of Data Science

SIAM Journal on Matrix Analysis and

Volume 20 • Issue 1 | Multiscale Modeling & Simulation  
Editor-in-Chief: Liliana Borcea

# 3/2. SIAM期刊主页



**1**

**2**

**3**

**4**

## 期刊独立导航栏

- 最新期次
- 所有期次
- 关于本刊
- 投稿
- 订购

## 最新发表的文章

## 最新期次概要

## 该刊阅读量、引用量最高的文章

# 3/3. SIAM期刊内文章列表

Home → Multiscale Modeling & Simulation → Vol. 20, Iss. 1

< Previous Issue

SELECT ALL

FULL ACCESS

**Upscaling Errors in Heterogeneous Multiscale Methods for the Landau–Lifshitz Equation**

Lena Leitmann, Olof Runborg

Abstract ▾

In this paper, we consider several possible ways to set up Heterogeneous Multiscale Methods for the Landau–Lifshitz equation with a highly oscillatory diffusion coefficient, which can be seen as a means to modeling rapidly varying ferromagnetic materials. We then prove estimates for the errors introduced when approximating the relevant quantity in each of the models given a periodic problem, using averaging in time and space of the solution to a corresponding micro problem. In our setup, the Landau–Lifshitz equation with a highly oscillatory coefficient is chosen as the micro problem for all models. We then show that the averaging errors only depend on  $\$varepsilon$  and the size of the microscopic oscillations, as well as the size of the averaging domain in time and space and the choice of averaging kernels.

FULL ACCESS 1

**Tensor-Based Numerical Method for Stochastic Homogenization**

Quentin Ayoub-Guilmaud, Anthony Nouy, Christophe Biennetruy

Abstract ▾

FULL ACCESS

**Homogenization of the Stokes System in a Non-Periodically Perforated Domain**

Sylvain Wolf

Abstract ▾

FULL ACCESS

**A Semi-Lagrangian Computation of Front Speeds of G-equation in ABC and Kolmogorov Flows with Estimation via Ballistic Orbits**

Chou Kao, Yu-Yu Liu, Jack Xin

Abstract ▾

FOR SELECTED PAPERS

Please Select ▾

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CURRENT ISSUE

Multiscale Modeling & Simulation

A SIAM Interdisciplinary Journal

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A PUBLICATION OF THE SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS

Volume 20 · Issue 1 · Mar 2022

pp. 1-187

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Frequency: bimonthly

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# 3/4. SIAM期刊内文章页面

Home → SIAM Review → Vol. 51, Iss. 3 → 10.1137/07070111X

◀ Previous Article      Next Article ▶

**Tensor Decompositions and Applications**

Tamara G. Kolda and Brett W. Bader

Search for more papers by this author

1  PDF    BibTeX    SECTIONS

2 Abstract   3  Tools   4

This survey provides an overview of higher-order tensor decompositions, their applications, and available software. A tensor is a multidimensional or  $N$ -way array. Decompositions of higher-order tensors (i.e.,  $N$ -way arrays with  $N \geq 3$ ) have applications in psycho-metrics, chemometrics, signal processing, numerical linear algebra, computer vision, numerical analysis, data mining, neuroscience, graph analysis, and elsewhere. Two particular tensor decompositions can be considered to be higher-order extensions of the matrix singular value decomposition: CANDECOMP/PARAFAC (CP) decomposes a tensor as a sum of rank-one tensors, and the Tucker decomposition is a higher-order form of principal component analysis. There are many other tensor decompositions, including INDSCAL, PARAFAC2, CANDELINC, DEDICOM, and PARATUCK2 as well as nonnegative variants of all of the above. The  $N$ -way Toolbox, Tensor Toolbox, and Multilinear Engine are examples of software packages for working with tensors.

**Keywords** 5

tensor decompositions, multiway arrays, multilinear algebra, parallel factors (PARAFAC), canonical decomposition (CANDECOMP), higher-order principal components analysis (Tucker), higher-order singular value decomposition (HOSVD)

Figures   Related   References   Cited By   Details

**Tensor Train Construction From Tensor Actions, With Application to Compression of Large High Order Derivative Tensors**  
 Nick Alger, Peng Chen, Omar Ghattas  
[Abstract +](#)

**Parallel Algorithms for Tensor Train Arithmetic**  
 Hussam Al Daas, Grey Ballard, Peter Benner  
[Abstract +](#)

**Towards Compact Neural Networks via End-to-End Training: A Bayesian Tensor Approach with Automatic Rank Determination**  
 Cole Hawkins, Xing Liu, Zheng Zhang  
[Abstract +](#)

**Tensor-Structured Sketching for Constrained Least Squares**  
 Ke Chen, Ruhui Jin  
[Abstract +](#)

1 该文章作者，检索该作者其他文章

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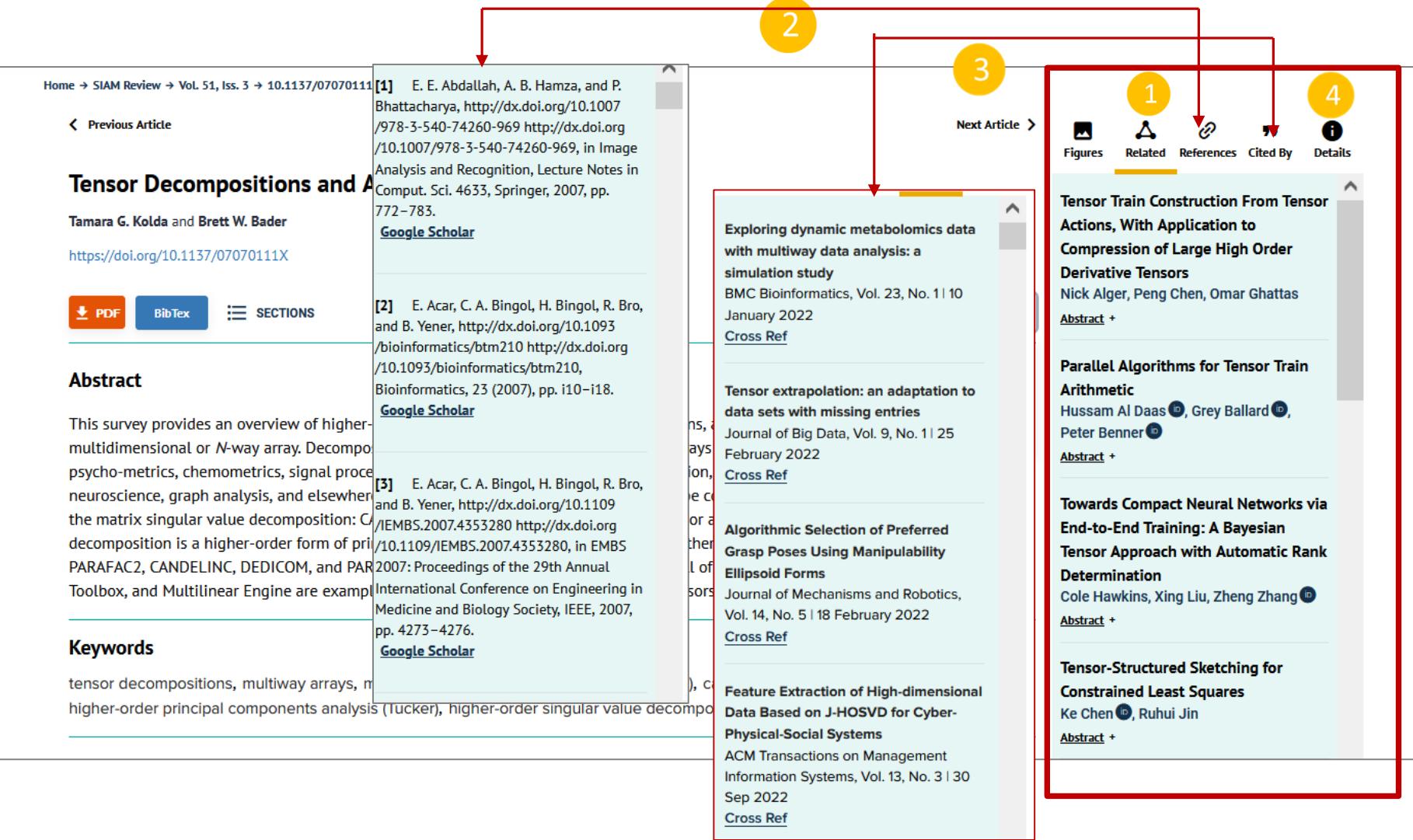
3 文章参考文献目录

4 工具箱

- 文章加入收藏夹
- 下载文章引用数据
- 引用追踪
- 推荐给图书馆

5 文章关键字

# 3/5. SIAM 期刊内文章相关页面



The screenshot shows a journal article from the SIAM Review. The article title is "Tensor Decompositions and A". Below the title, the authors are Tamara G. Kolda and Brett W. Bader, with a DOI link: <https://doi.org/10.1137/07070111X>. The page includes sections for Abstract, Keywords, and References.

**Related Articles:**

- [1] E. E. Abdallah, A. B. Hamza, and P. Bhattacharya, <http://dx.doi.org/10.1007/978-3-540-74260-969>, in *Image Analysis and Recognition, Lecture Notes in Comput. Sci. 4633*, Springer, 2007, pp. 772–783.
- [2] E. Acar, C. A. Bingol, H. Bingol, R. Bro, and B. Yener, <http://dx.doi.org/10.1093/bioinformatics/btm210>, *Bioinformatics*, 23 (2007), pp. i10–i18.
- [3] E. Acar, C. A. Bingol, H. Bingol, R. Bro, and B. Yener, <http://dx.doi.org/10.1109/IEMB5.2007.4353280>, in *EMBS 2007: Proceedings of the 29th Annual PARAFAC2, CANDELINC, DEDICOM, and PAR* 2007: Proceedings of the 29th Annual International Conference on Engineering in Medicine and Biology Society, IEEE, 2007, pp. 4273–4276.

**References:**

Exploring dynamic metabolomics data with multiway data analysis: a simulation study  
*BMC Bioinformatics*, Vol. 23, No. 1 | 10 January 2022  
[Cross Ref](#)

Tensor extrapolation: an adaptation to data sets with missing entries  
*Journal of Big Data*, Vol. 9, No. 1 | 25 February 2022  
[Cross Ref](#)

Algorithmic Selection of Preferred Grasp Poses Using Manipulability Ellipsoid Forms  
*Journal of Mechanisms and Robotics*, Vol. 14, No. 5 | 18 February 2022  
[Cross Ref](#)

Feature Extraction of High-dimensional Data Based on J-HOSVD for Cyber-Physical-Social Systems  
*ACM Transactions on Management Information Systems*, Vol. 13, No. 3 | 30 Sep 2022  
[Cross Ref](#)

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- Figures
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**Related Articles:**

- Tensor Train Construction From Tensor Actions, With Application to Compression of Large High Order Derivative Tensors  
 Nick Alger, Peng Chen, Omar Ghattas  
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- Parallel Algorithms for Tensor Train Arithmetic  
 Hussam Al Daas, Grey Ballard, Peter Benner  
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- Towards Compact Neural Networks via End-to-End Training: A Bayesian Tensor Approach with Automatic Rank Determination  
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[Abstract +](#)

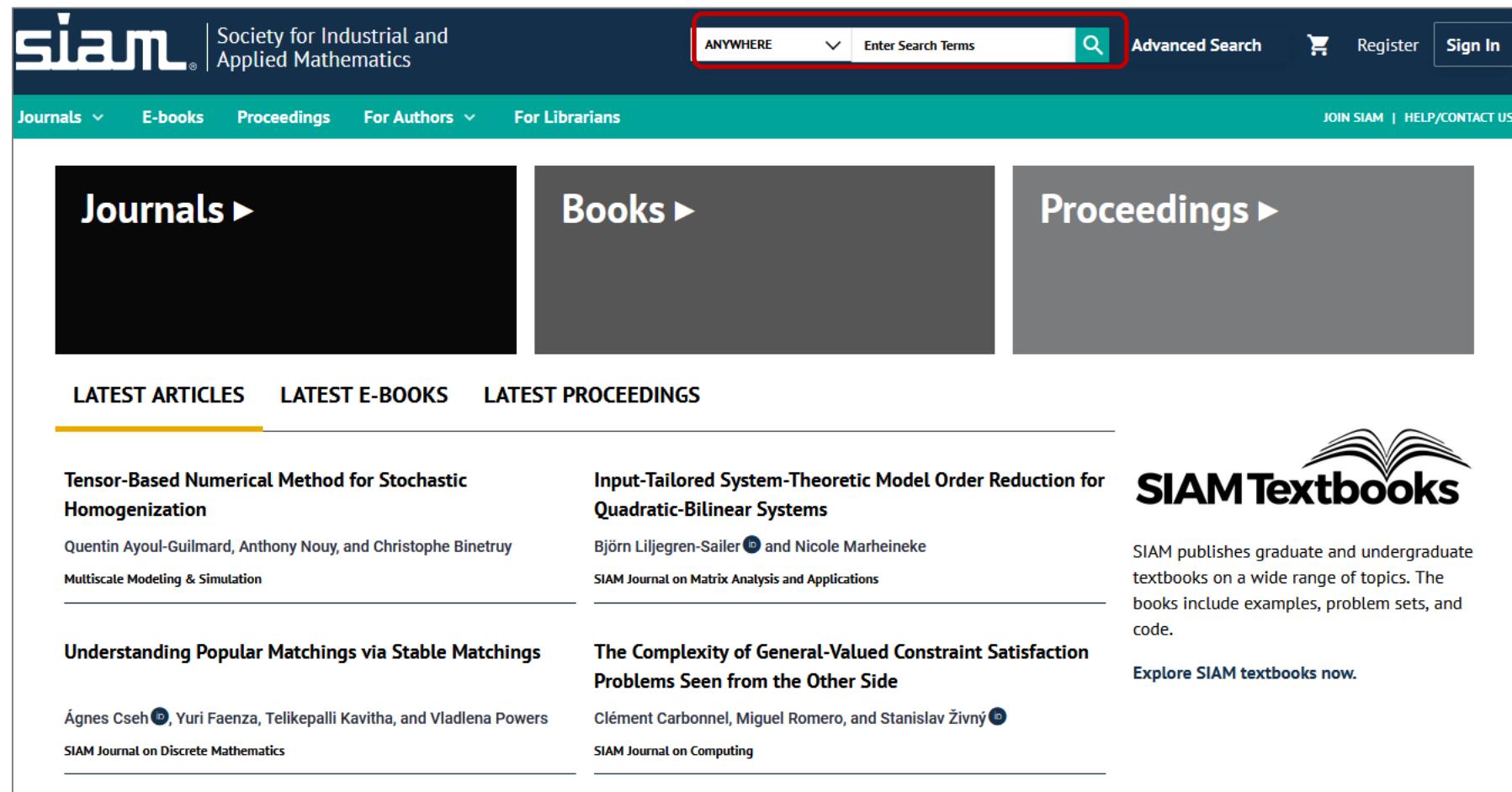
1 与该文相关的文章

2 该文参考文献信息

3 该文章被引信息

4 该期刊详情页

# 3/6. 检索功能



1

2

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**Tensor-Based Numerical Method for Stochastic Homogenization**  
Quentin Ayoul-Guilmand, Anthony Nouy, and Christophe Biennetruy  
Multiscale Modeling & Simulation

---

**Understanding Popular Matchings via Stable Matchings**  
Ágnes Cseh, Yuri Faenza, Telikepalli Kavitha, and Vladlena Powers  
SIAM Journal on Discrete Mathematics

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**Input-Tailored System-Theoretic Model Order Reduction for Quadratic-Bilinear Systems**  
Björn Liljegegren-Sailer and Nicole Marheineke  
SIAM Journal on Matrix Analysis and Applications

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**The Complexity of General-Valued Constraint Satisfaction Problems Seen from the Other Side**  
Clément Carbonnel, Miguel Romero, and Stanislav Živný  
SIAM Journal on Computing

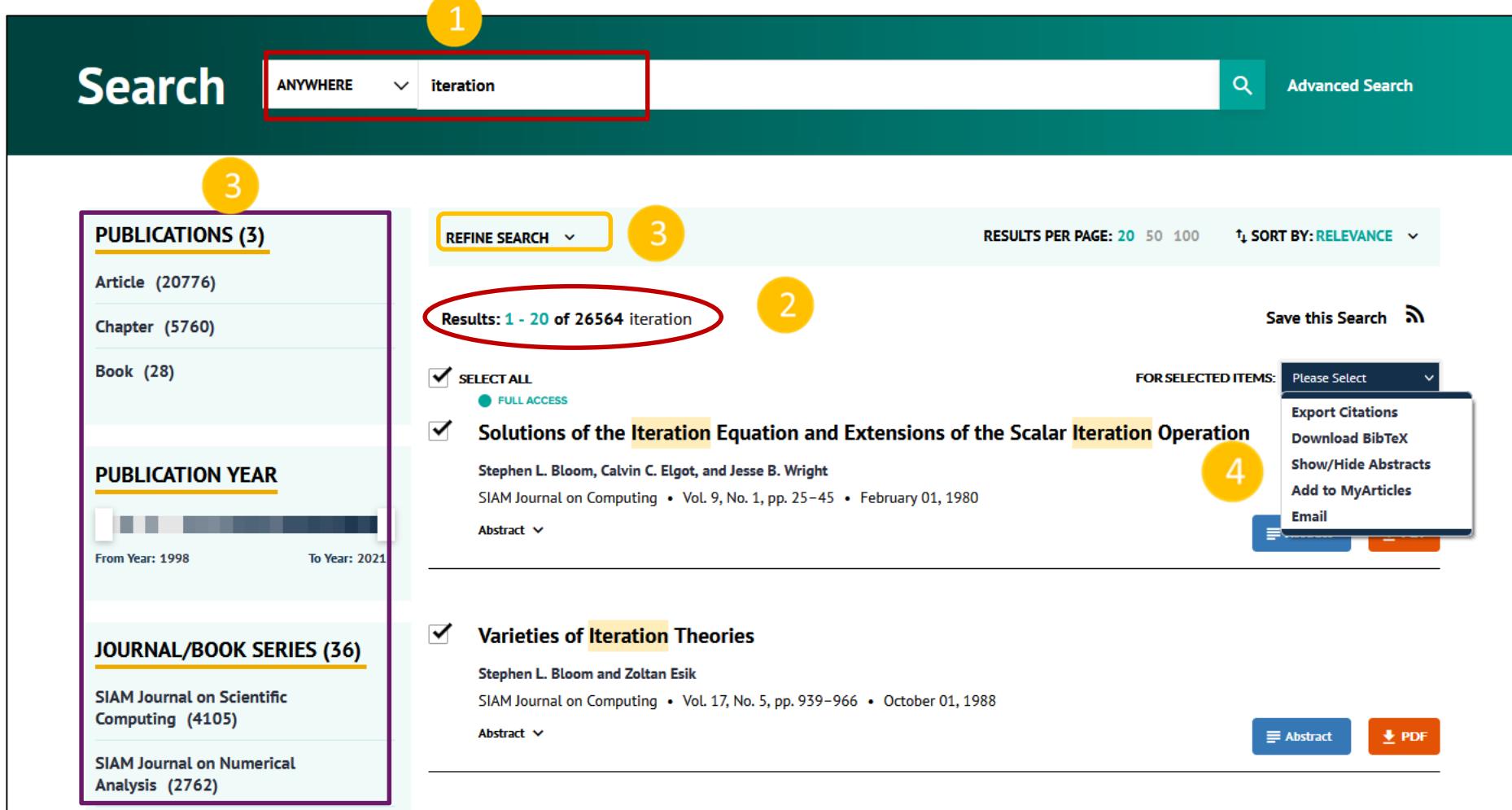
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1 快速检索框

2 高级检索框

### 3/7. 快速检索



The screenshot shows a search interface with the following elements:

- Step 1:** A search bar at the top with the word "iteration" entered. The search term is highlighted with a red box.
- Step 2:** Below the search bar, a results summary: "Results: 1 - 20 of 26564 iteration". This text is highlighted with a red oval.
- Step 3:** On the left side, a sidebar titled "PUBLICATIONS (3)" with categories: Article (20776), Chapter (5760), and Book (28). Below it are sections for "PUBLICATION YEAR" (with a slider from 1998 to 2021) and "JOURNAL/BOOK SERIES (36)" with entries like SIAM Journal on Scientific Computing (4105).
- Step 4:** On the right side, a dropdown menu titled "FOR SELECTED ITEMS: Please Select" with options: Export Citations, Download BibTeX, Show/Hide Abstracts, Add to MyArticles, and Email. This menu is highlighted with a blue box.

1 输入“iteration”,进行快速检索

2 检索结果数量

3 精简检索结果

a. 高级检索

b. 聚类功能

- 文章类型
- 出版年份
- 作者
- 期刊、电子书
- 关键字

4 对选中的文章进行各项操作

# 3/8. 高级检索

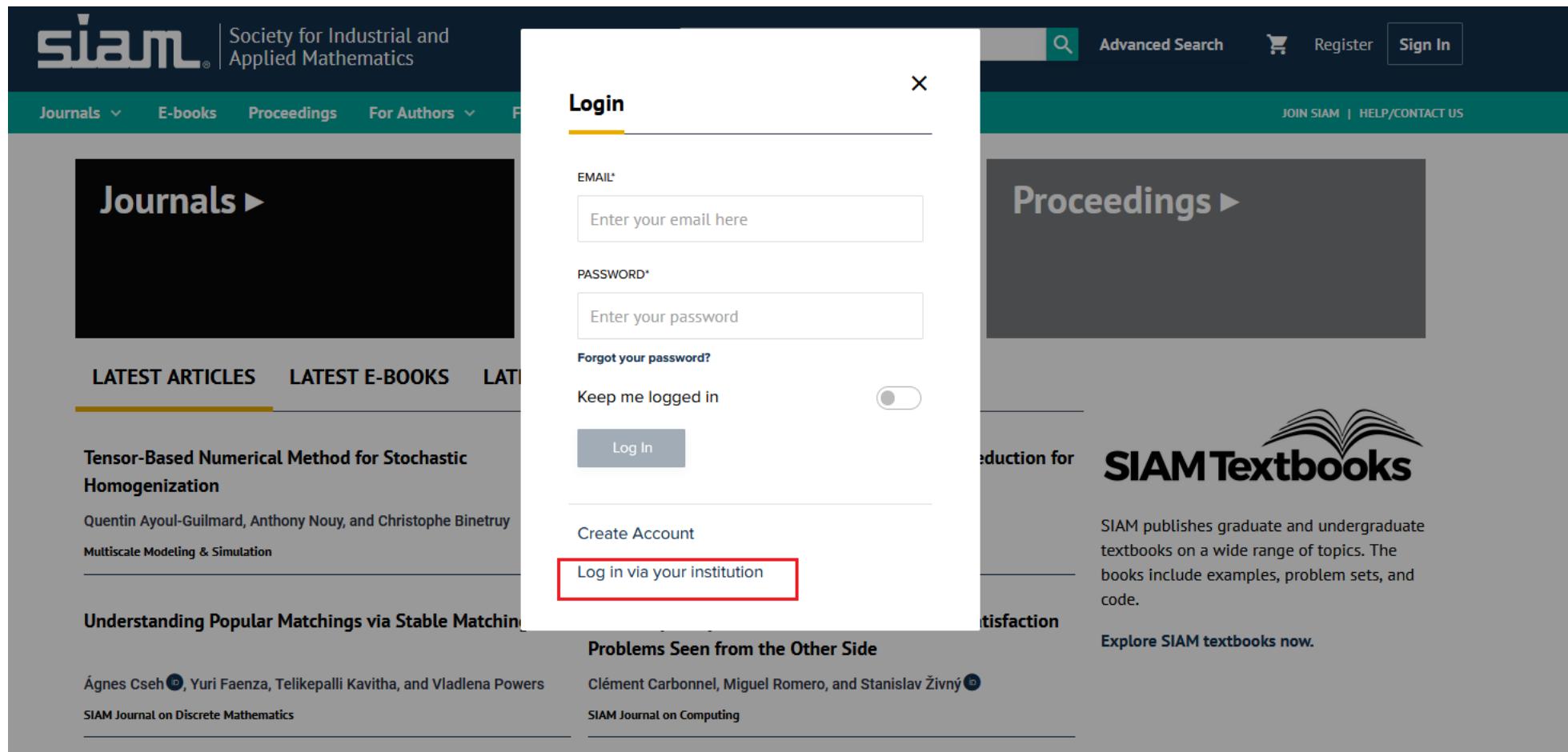


The screenshot shows the iChina search interface with several features highlighted:

- Saved Searches:** A red box highlights the "Saved Searches" tab in the top navigation bar, which has a tooltip "收藏检索式" (Collection Search).
- Search Fields:** The search form includes fields for "Anywhere" (set to "iteration"), "Title", "Author", "Keywords", "Abstract", "Affiliation", and "Topic". A red box highlights the "Anywhere" field.
- Publication Date:** A section for "Publication Date" with options "All dates" (selected), "Last", and "Custom range". A red box highlights the "Custom range" section.
- Search Results:** The results page shows a list of items, with the first item being "2. Conjugate Gradient Iteration". A red box highlights this item.
- Annotations:** A large gray callout box with a red border contains the text "支持同时进行选择标题、作者、关键字、文摘、作者所属机构等检索范围;" (Support simultaneous selection of title, author, keyword, abstract, and author affiliation search ranges;).
- Labels:** Labels "收藏检索式" (Collection Search) and "限定出版日期范围" (Limit publication date range) are placed near their respective highlighted areas.

# 4. SIAM数据库远程访问的实现

登录SIAM主页----点击sign in---选择“login via Your institution”



The screenshot shows the SIAM homepage with a central login overlay. The login form has fields for 'EMAIL\*' and 'PASSWORD\*', a 'Forgot your password?' link, a 'Keep me logged in' toggle, and a 'Log In' button. Below the login form is a 'Create Account' link and a red-bordered 'Log in via your institution' link. The background features sections for 'Journals', 'Proceedings', and 'Textbooks'.

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Quentin Ayoul-Guilmand, Anthony Nouy, and Christophe Biennetruy  
Multiscale Modeling & Simulation

Understanding Popular Matchings via Stable Matching  
Ágnes Cseh, Yuri Faenza, Telikepalli Kavitha, and Vladlena Powers  
SIAM Journal on Discrete Mathematics

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“**Southeast University**”

X



统一身份认证

用户名

请输入一卡通号 / 别名

密码

请输入密码

忘记密码?

登录

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