

# 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)

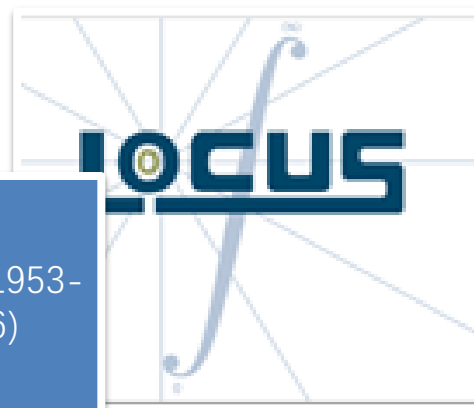
- 工业和应用数学学会 (SIAM) 于二十世纪五十年代前期在美国成立，是一个以促进**应用和计算数学**的研究、发展、应用为目的的协会。
- SIAM拥有14,000+个人会员，由来自世界各国的应用和计算数学家、计算机科学家、工程师、统计学家和数学教育者组成。
- SIAM拥有500多个机构会员，由大学，公司和研究机构组成。
- SIAM以出版高水准和颇具声誉的期刊而自豪。是公认的数学专业领域里最可靠的知识来源。

## 2/1. SIAM数据库出版物总览

期刊18种  
(1997-至今)



LOCUS(1953-1996)



SIAM  
Proceeding



SIAM电子图  
书



## 2/2. SIAM 期刊品质

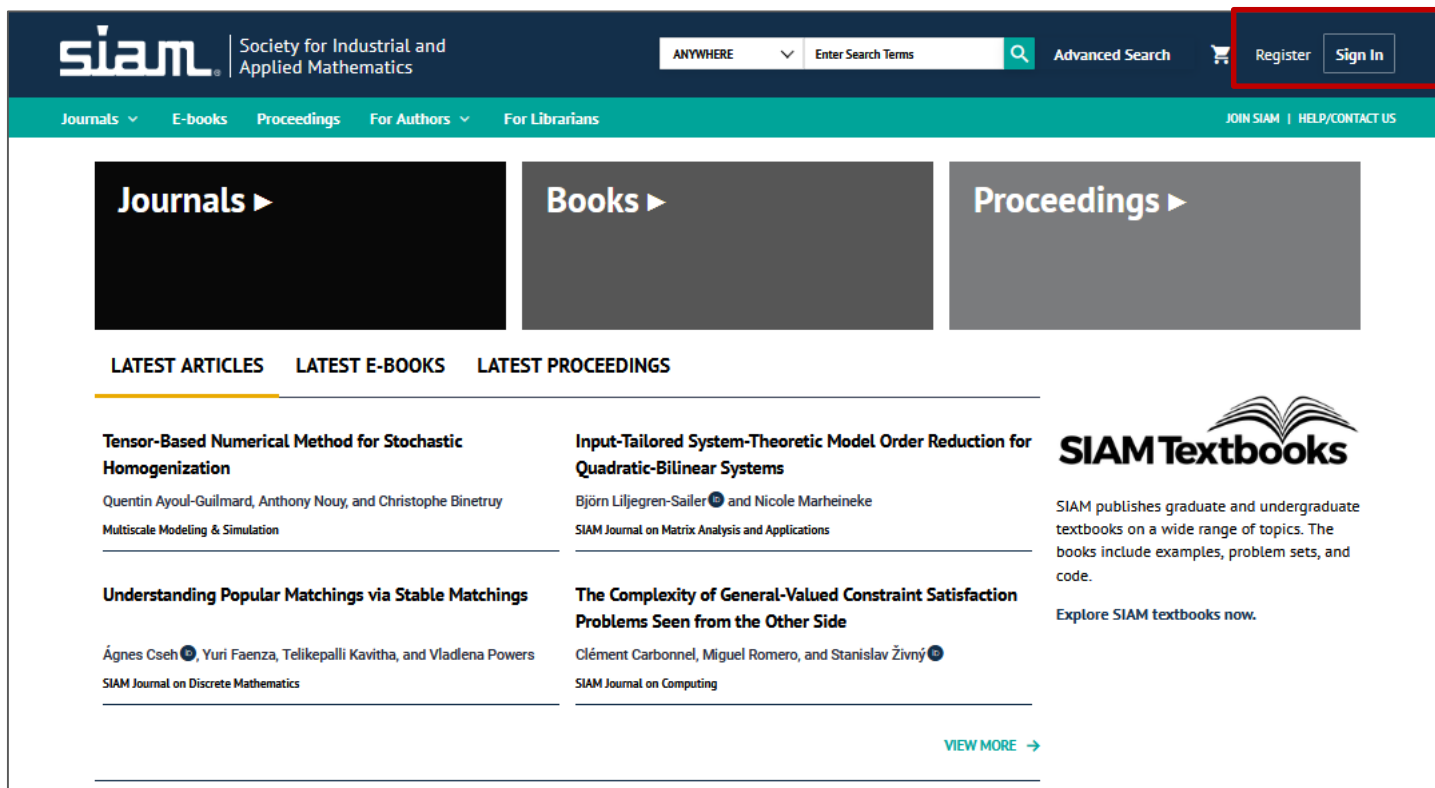
- SIAM出版的18本期刊，均是同行评审期刊，全部期刊均被 JCR收录
- **SIAM Review** 在“应用数学”领域被JCR收录的期刊中连续数年排名数一数二



- 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://epubs.siam.org>

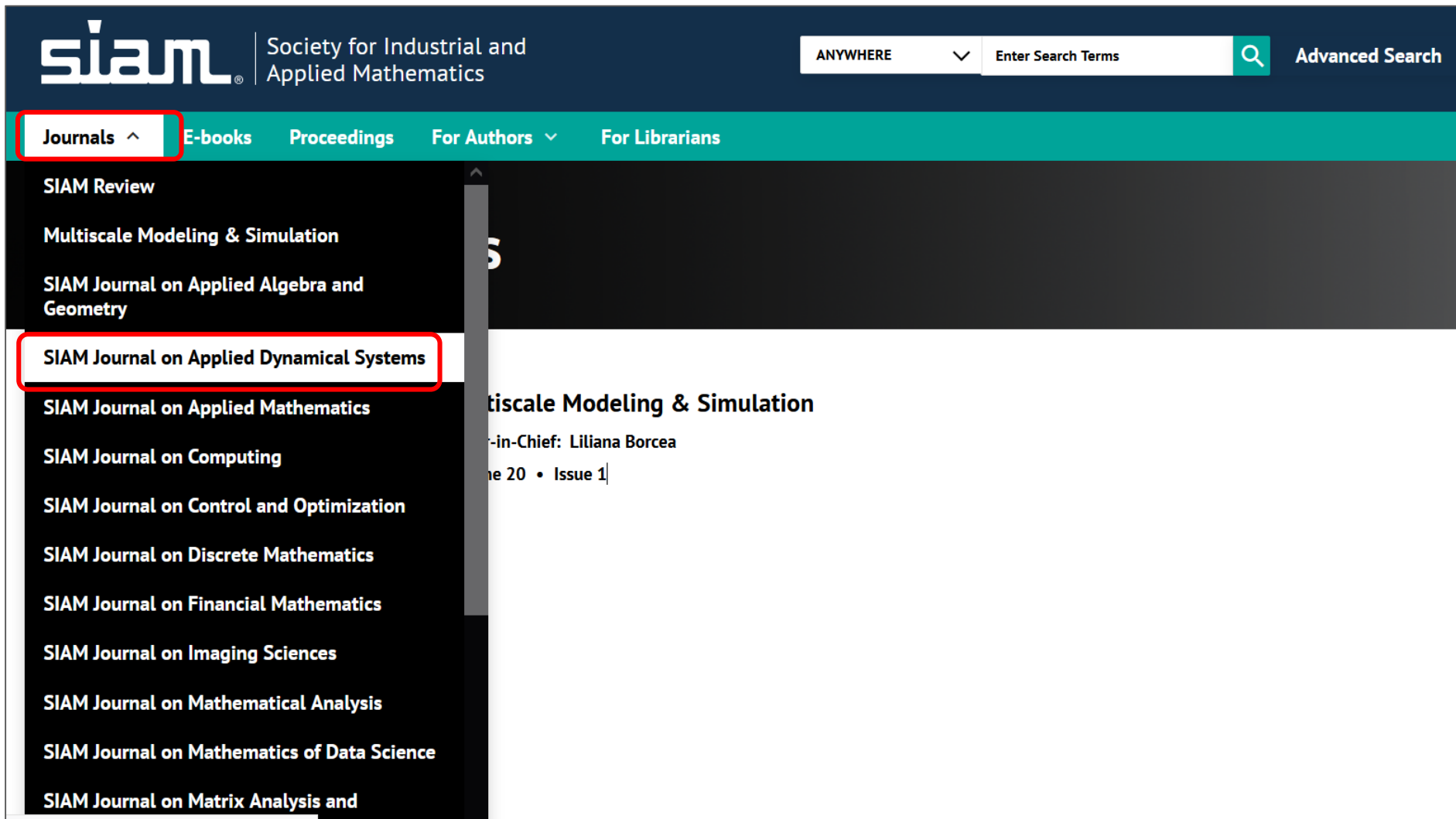


The screenshot shows the SIAM website homepage. At the top, there is a dark blue navigation bar with the SIAM logo on the left, a search bar in the center, and 'Register' and 'Sign In' buttons on the right. Below the navigation bar is a teal bar with links for 'Journals', 'E-books', 'Proceedings', 'For Authors', and 'For Librarians'. The main content area is divided into three columns: 'Journals', 'Books', and 'Proceedings'. Below these columns are sections for 'LATEST ARTICLES', 'LATEST E-BOOKS', and 'LATEST PROCEEDINGS'. The 'LATEST ARTICLES' section lists two articles: 'Tensor-Based Numerical Method for Stochastic Homogenization' and 'Understanding Popular Matchings via Stable Matchings'. The 'LATEST E-BOOKS' section lists two articles: 'Input-Tailored System-Theoretic Model Order Reduction for Quadratic-Bilinear Systems' and 'The Complexity of General-Valued Constraint Satisfaction Problems Seen from the Other Side'. The 'LATEST PROCEEDINGS' section is currently empty. On the right side of the main content area, there is a 'SIAM Textbooks' section with a logo and a brief description of the textbooks available.

注册或登录账户，获取个性化服务：

- ✓ 访问数据库全文（订购机构的用户）
- ✓ 保存检索式
- ✓ 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 SIAM website's navigation menu. The "Journals" menu item is highlighted with a red box. The dropdown menu lists several journals, with "SIAM Journal on Applied Dynamical Systems" also highlighted with a red box. The background shows the SIAM logo and the text "Society for Industrial and Applied Mathematics". A search bar is visible at the top right, and a navigation bar at the top contains "ANYWHERE", "Enter Search Terms", and "Advanced Search".

siam | Society for Industrial and Applied Mathematics

ANYWHERE | Enter Search Terms | Advanced Search

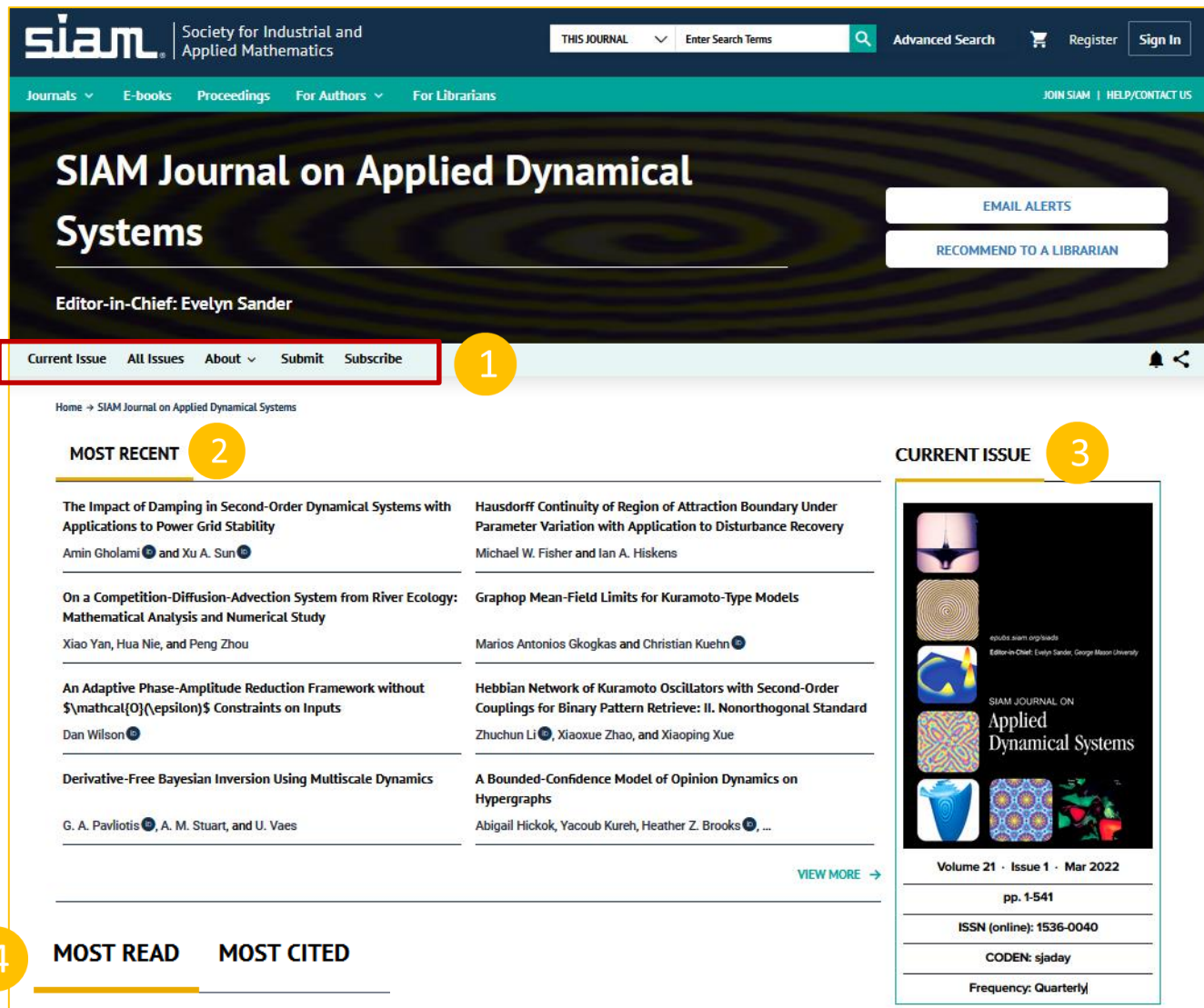
Journals ^ | E-books | Proceedings | For Authors v | For Librarians

- 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

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



## 3/2. SIAM期刊主页



The screenshot shows the homepage of the SIAM Journal on Applied Dynamical Systems. The page features a navigation bar with links for Journals, E-books, Proceedings, For Authors, and For Librarians. The main title is "SIAM Journal on Applied Dynamical Systems" with the Editor-in-Chief, Evelyn Sander. A navigation menu at the bottom left includes "Current Issue", "All Issues", "About", "Submit", and "Subscribe".

**1** (Red box): Navigation menu containing "Current Issue", "All Issues", "About", "Submit", and "Subscribe".

**2** (Yellow circle): "MOST RECENT" section listing recent articles such as "The Impact of Damping in Second-Order Dynamical Systems with Applications to Power Grid Stability" and "Hausdorff Continuity of Region of Attraction Boundary Under Parameter Variation with Application to Disturbance Recovery".

**3** (Yellow circle): "CURRENT ISSUE" section featuring the cover of Volume 21, Issue 1, March 2022, with page numbers pp. 1-541, ISSN (online): 1536-0040, CODEN: sjaday, and Frequency: Quarterly.

**4** (Yellow circle): "MOST READ" and "MOST CITED" sections at the bottom left.

### 1 期刊独立导航栏

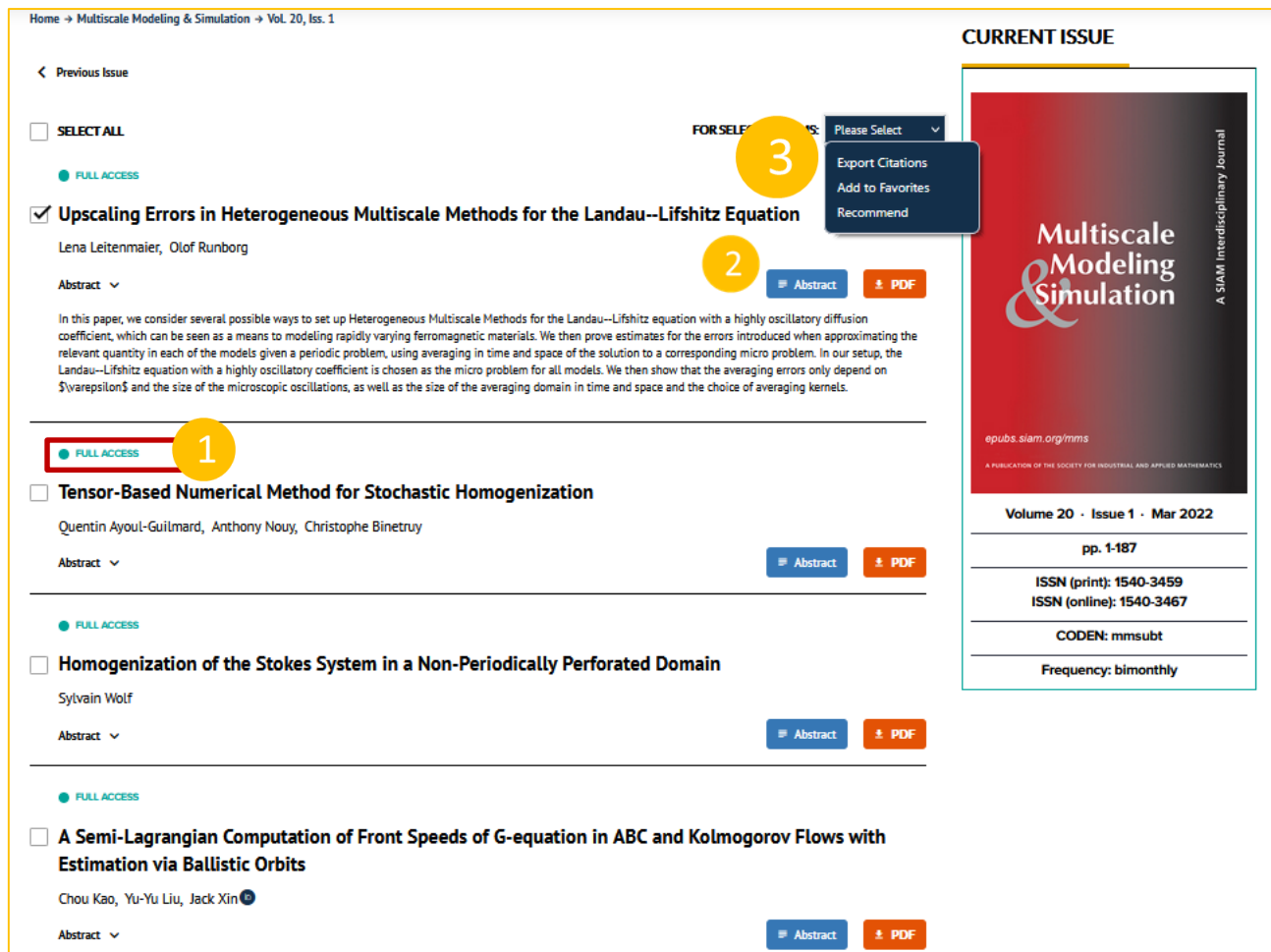
- 最新期次
- 所有期次
- 关于本刊
- 投稿
- 订购

### 2 最新发表的文章

### 3 最新期次概要

### 4 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 Leitenmaier, 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  $\epsilon$  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.

Tensor-Based Numerical Method for Stochastic Homogenization

Quentin Ayoul-Guilnard, Anthony Nouy, Christophe Binetruy

Abstract

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

Sylvain Wolf

Abstract

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

**CURRENT ISSUE**

Multiscale Modeling & Simulation

A SIAM Interdisciplinary Journal

epubs.siam.org/mms

A PUBLICATION OF THE SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS

Volume 20 · Issue 1 · Mar 2022

pp. 1-187

ISSN (print): 1540-3459  
ISSN (online): 1540-3467

CODEN: mmsubt

Frequency: bimonthly

1

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2

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3

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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

## Tensor Decompositions and Applications

Tamara G. Kolda and Brett W. Bader

1 Search for more papers by this author

PDF BibTeX SECTIONS

2 Abstract

3

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.

4 Tools

5 Keywords

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

Next Article >

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

2 文章PDF下载

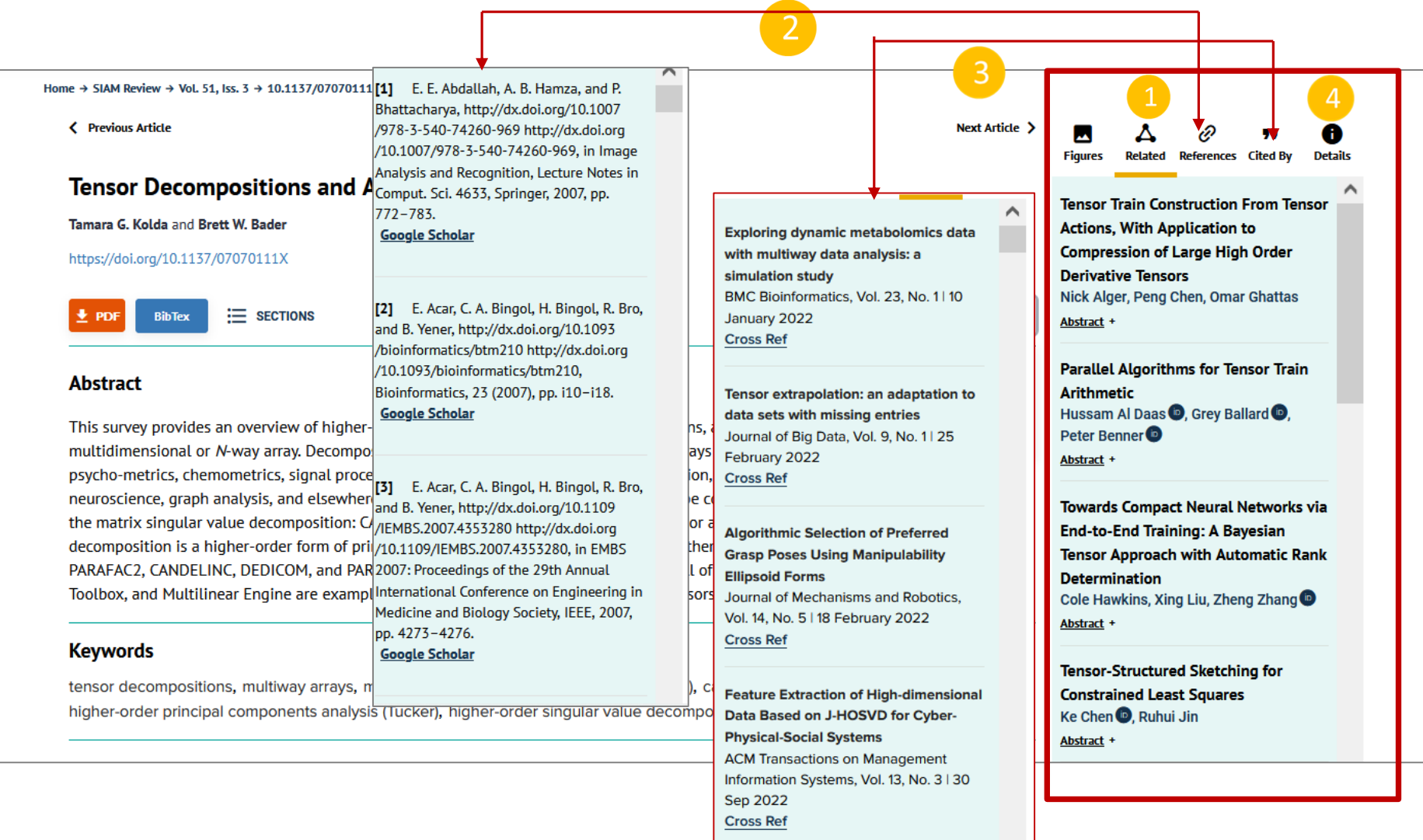
3 文章参考文献目录

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



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

< Previous Article

## Tensor Decompositions and A

Tamara G. Kolda and Brett W. Bader

<https://doi.org/10.1137/07070111X>

PDF BibTeX SECTIONS

### Abstract

This survey provides an overview of higher-dimensional or  $N$ -way array. Decomposition, psychometrics, chemometrics, signal processing, neuroscience, graph analysis, and elsewhere the matrix singular value decomposition: Canonical decomposition is a higher-order form of principal component analysis (PCA), PARAFAC2, CANDELINC, DEDICOM, and PARATENSOR Toolbox, and Multilinear Engine are examples of higher-order tensor decompositions.

### Keywords

tensor decompositions, multiway arrays, multiway principal components analysis ( Tucker), higher-order singular value decomposition

[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. [Google Scholar](#)

[2] E. Acar, C. A. Bingol, H. Bingol, R. Bro, and B. Yener, <http://dx.doi.org/10.1093/bioinformatics/btm210> <http://dx.doi.org/10.1093/bioinformatics/btm210>, *Bioinformatics*, 23 (2007), pp. i10–i18. [Google Scholar](#)

[3] E. Acar, C. A. Bingol, H. Bingol, R. Bro, and B. Yener, <http://dx.doi.org/10.1109/IEMBS.2007.4353280> <http://dx.doi.org/10.1109/IEMBS.2007.4353280>, in *EMBS 2007: Proceedings of the 29th Annual International Conference on Engineering in Medicine and Biology Society, IEEE*, 2007, pp. 4273–4276. [Google Scholar](#)

Next Article >

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 +](#)

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](#)

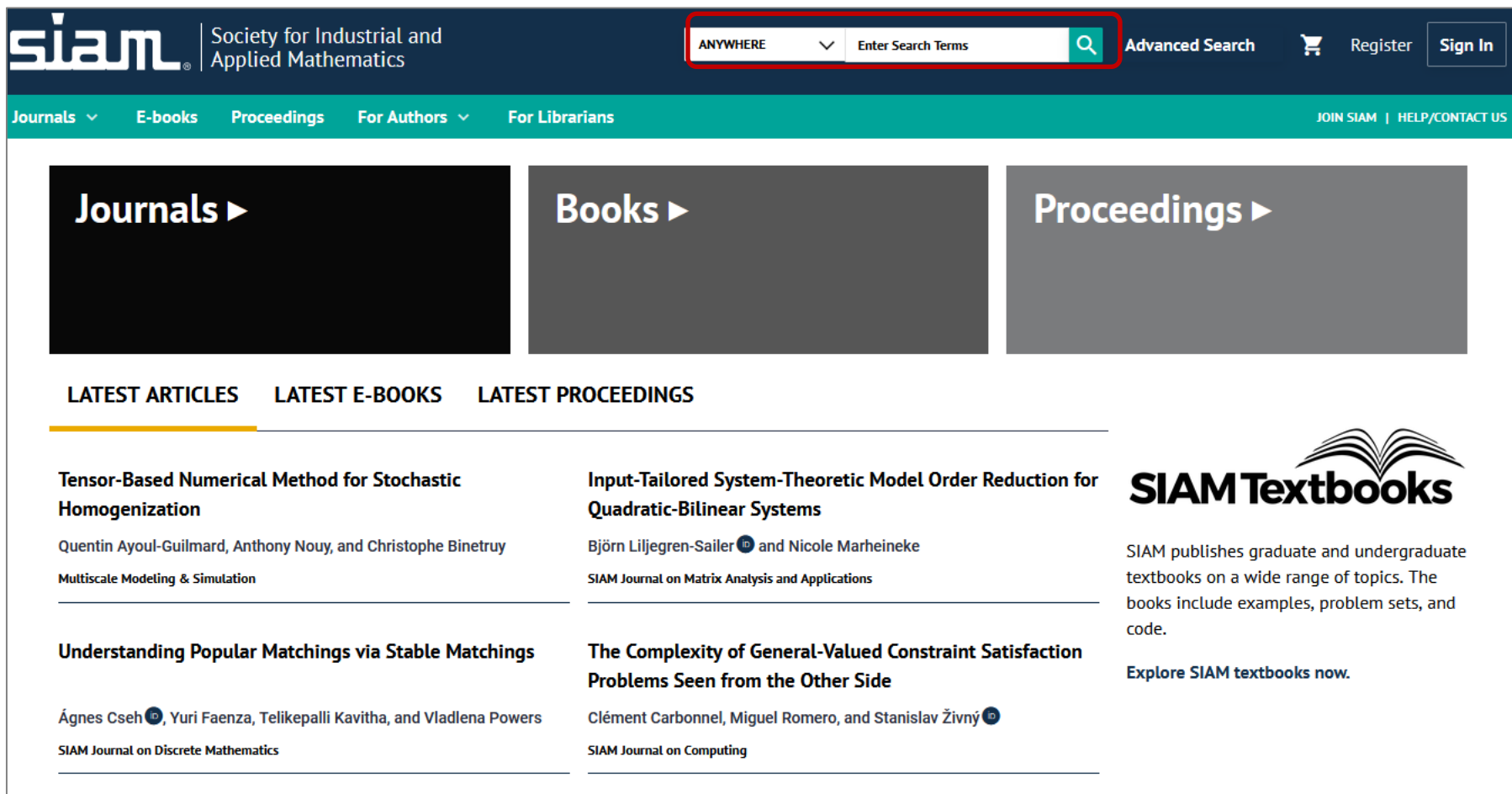
Feature Extraction of High-dimensional Data Based on J-HOSVD for Cyber-Physical-Social Systems  
*ACM Transactions on Management Information Systems*, Vol. 13, No. 3 | 30 Sep 2022  
[Cross Ref](#)

- 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



The screenshot shows the SIAM website interface. At the top, there is a search bar with a dropdown menu set to 'ANYWHERE' and a search input field containing 'Enter Search Terms'. To the right of the search bar are links for 'Advanced Search', a shopping cart icon, 'Register', and 'Sign In'. Below the search bar is a navigation menu with links for 'Journals', 'E-books', 'Proceedings', 'For Authors', and 'For Librarians'. The main content area features three large buttons for 'Journals', 'Books', and 'Proceedings'. Below these are sections for 'LATEST ARTICLES', 'LATEST E-BOOKS', and 'LATEST PROCEEDINGS'. The 'LATEST ARTICLES' section displays two article entries with their titles, authors, and journal names. To the right, there is a 'SIAM Textbooks' section with a logo and a brief description of the books available.

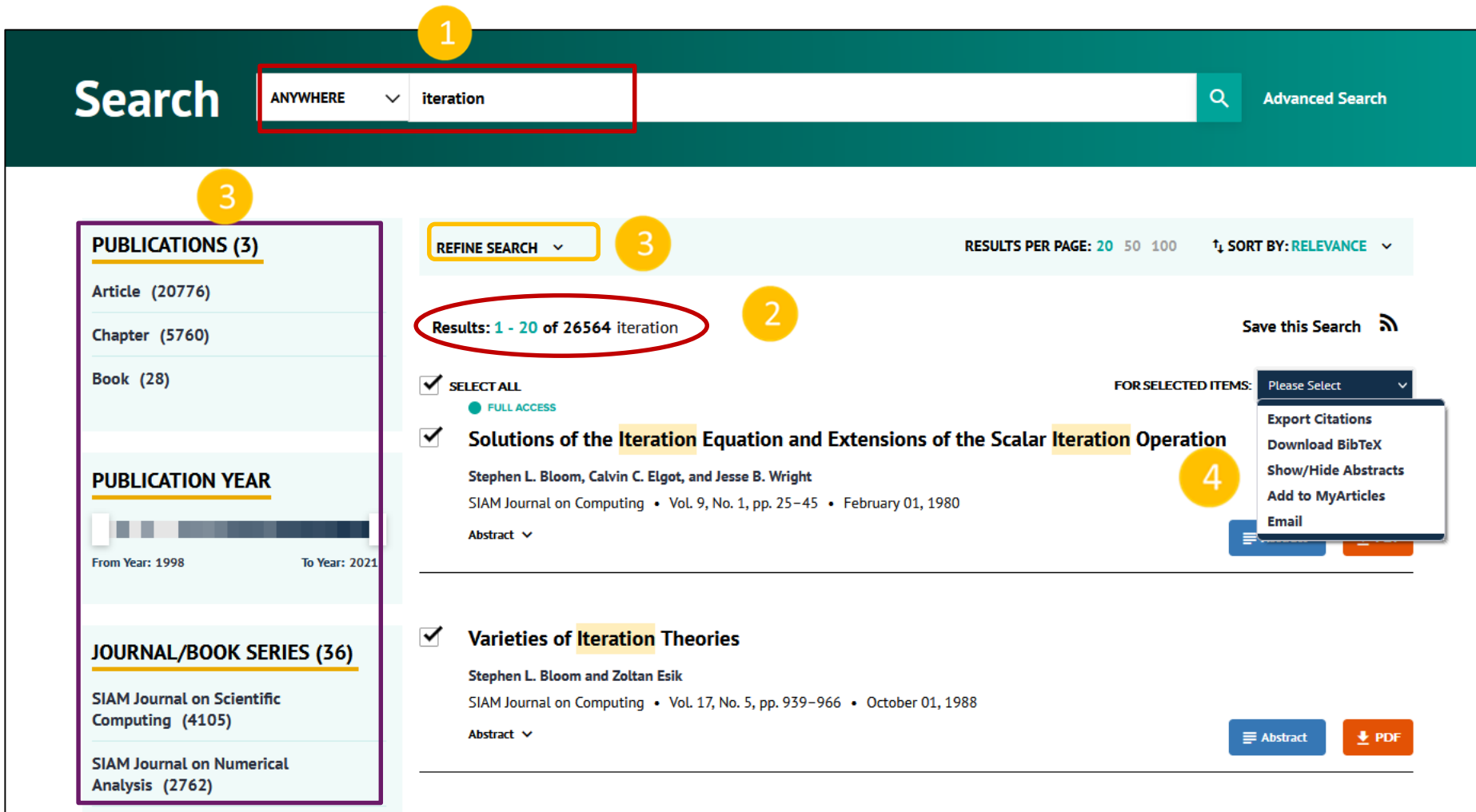
1

快速检索框

2

高级检索框

# 3/7. 快速检索



**Search** ANYWHERE

REFINE SEARCH **3** RESULTS PER PAGE: 20 50 100 SORT BY: RELEVANCE

**Results: 1 - 20 of 26564 iteration** **2**

**3**

**4**

**PUBLICATIONS (3)**  
 Article (20776)  
 Chapter (5760)  
 Book (28)

**PUBLICATION YEAR**  
 From Year: 1998 To Year: 2021

**JOURNAL/BOOK SERIES (36)**  
 SIAM Journal on Scientific Computing (4105)  
 SIAM Journal on Numerical Analysis (2762)

SELECT ALL  
 FULL ACCESS

**Solutions of the Iteration Equation and Extensions of the Scalar Iteration Operation**  
 Stephen L. Bloom, Calvin C. Elgot, and Jesse B. Wright  
 SIAM Journal on Computing • Vol. 9, No. 1, pp. 25-45 • February 01, 1980  
 Abstract

**Varieties of Iteration Theories**  
 Stephen L. Bloom and Zoltan Esik  
 SIAM Journal on Computing • Vol. 17, No. 5, pp. 939-966 • October 01, 1988  
 Abstract

FOR SELECTED ITEMS: Please Select  
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Abstract PDF

**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

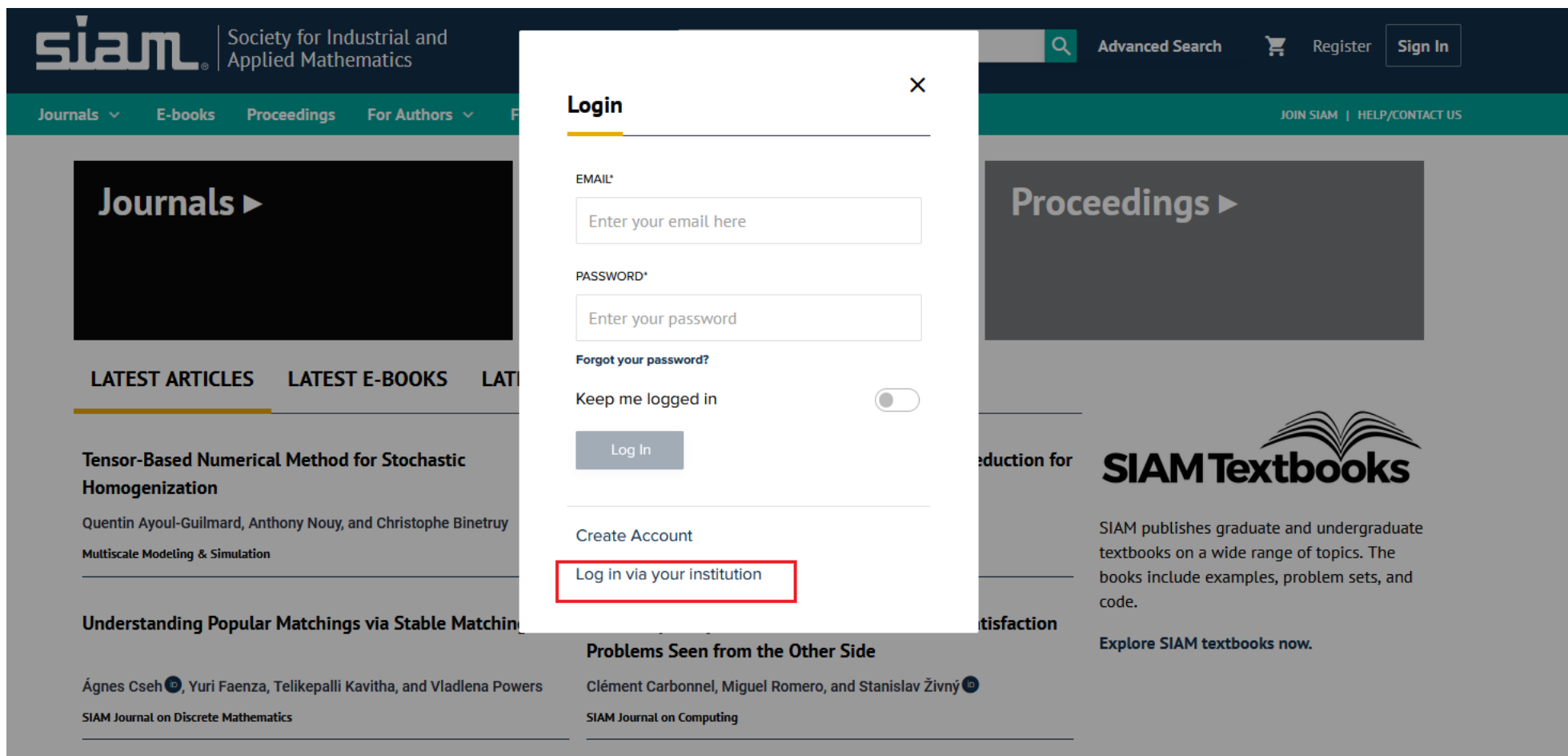


The screenshot shows an advanced search interface with several key features highlighted by red boxes and callouts:

- Advanced Search**: A red box highlights the "Advanced Search" button in the top right navigation bar.
- 收藏检索式**: A red box highlights the "Saved Searches" tab, with a callout box containing the text "收藏检索式" (Save search formula).
- Search Fields**: A dropdown menu on the left lists search fields: "Anywhere", "Title", "Author", "Keywords", "Abstract", and "Affiliation". The "Anywhere" field is currently selected.
- Search Term**: The search term "iteration" is entered in the top search box.
- Publication Date**: A callout box points to the "Publication Date" section, which includes options for "All dates", "Last", and "Custom range". The "Custom range" section has "Month" and "Year" dropdowns for both "From" and "To" dates.
- 限定出版日期范围**: A red box highlights the "Custom range" section with the text "限定出版日期范围" (Limit publication date range).
- Search Results**: The results list shows a search for "of the Scalar Iteration Operation" with buttons for "Abstract" and "PDF".

## 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”

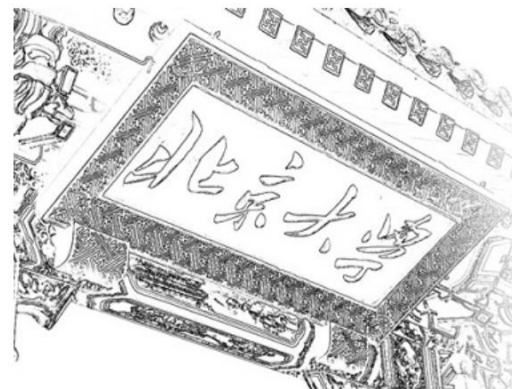
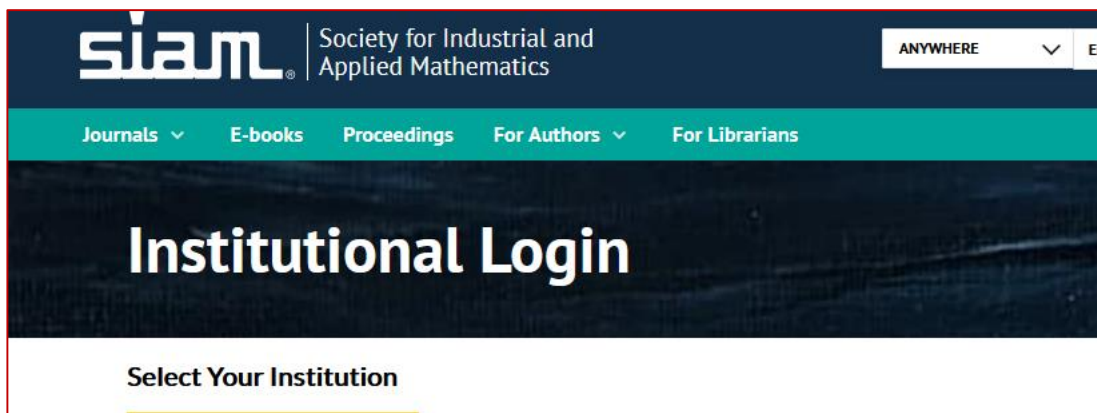


The screenshot shows the SIAM website interface with a modal login window. The modal window contains the following elements:

- Header:** "Login" with a close button (X).
- EMAIL\*:** A text input field with the placeholder "Enter your email here".
- PASSWORD\*:** A text input field with the placeholder "Enter your password".
- Forgot your password?:** A link below the password field.
- Keep me logged in:** A toggle switch.
- Log In:** A button.
- Create Account:** A link.
- Log in via your institution:** A link highlighted with a red box.

The background website shows the SIAM logo, navigation menu (Journals, E-books, Proceedings, For Authors), and a "Sign In" button in the top right corner.





账号登录

扫码登录

学号/职工号/北大邮箱/手机号

密码

忘记密码

记住账号

登录

Select your institution

pek

Peking University

输入用户机构英文名称，如  
“Peking University”



# Thank You

\*SIAM 数据库在国内由iGroup中国独家代理



More info: [angela@igroup.com.cn](mailto:angela@igroup.com.cn)