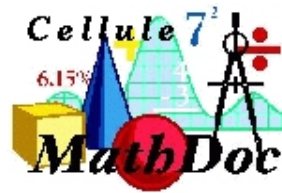


Mathematics & databases (open) access

LAURENT GUILLOPÉ
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1. Cellule MathDoc : who and what
2. NUMDAM : what and how
3. DML : a vision
4. The LINUM service
5. What mathematicians need

Cellule de coordination documentaire nationale pour les mathématiques

Unité mixte de service CNRS – Univ. J. Fourier (Grenoble)

- + Created in 1995
- + An institute for Scientific Information & Communication in Mathematics
- + 3 mathematicians, 2 computer engineers, 2 information managers, 1 assistant

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Some projects and cooperations

- Union catalogs of mathematical libraries
(*serials, books, in collaboration with the RNBDM*)
- Zentralblatt Math (FIZ-Karlsruhe, Springer, EMS)
(*towards its Europeanization*)
- Thesis and preprints indexes
(*CCSD cooperation : TEL, HAL*)
- NUMDAM retro-digitization program

Search and download archives of mathematical journals published in France

First display (december 2002)

2003/01/04

- Home
- Search
- Browse
- Legislation
- Technical informations
- NUMDAM project
- Contact



Annales de l'institut Fourier (1949-1996)



Journées Équations aux dérivées partielles (1974-2000)

Other resources websites

- Cellule MathDoc
- Mathematical Documentary Portal
- Digitized maths resources

Presentation

In order to support french mathematical journals, the NUMDAM program has set up free access to bibliographical data and articles of french mathematical journals. For each journal, all the volumes published up to year 2000 have been retro-digitized. The articles themselves are available for online access after a given time (moving wall) during which they are reserved for subscribers.

It is possible to search directly for an article by author name, title words or keywords present in the text.

It is also possible to browse the tables of contents of all the volumes.

Journals available in the first phase

- the Annales de l'institut Fourier (search and bibliographical records for 1949-2000 ; downloadable articles until 1996 included)
- the proceedings of Journées Équations aux dérivées partielles (search, records and downloadable articles for 1974-2000)

Soon to be followed by :

2. NUMDAM : WHAT AND HOW

NUMDAM aims

NUMDAM aims

- Preserve mathematical cultural (French) heritage and provide its access
- Serve current scientific research (mathematics, history of science, . . .)
- Retro-digitize mathematical documents
(*journals, proceedings, seminars, . . .*)
- Combine ancient collections and current publishing

NUMDAM methods

NUMDAM methods

- High technical and non proprietary standards
(*XML, metadata, scanning, . . .*)
- Preservation of authors rights
- Negotiation with editors and publishers
(*moving wall*)
- Quality Control
- Links to (and from) other mathematical databases
(*edbm2-h1*)

2. NUMDAM : WHAT AND HOW

NUMDAM I (2000-2003)

2. NUMDAM : WHAT AND HOW

NUMDAM I (2000-2003)

Title	Creation	Owner	Volumes Pages	Articles	Authors ¹	Links ²	Wall
Ann. Institut Fourier	1949	AIF	156 51 054	1 798	2 337 1 658	25 622 19 844 1 339	5
Journées É. D. P.	1974	CNRS	28 5 471	469	621 320	5 336 3 824 0	0
Publ. Scient. I. H. É. S.	1959	IHÉS*	92 17 424	344	490 344	7 410 5 702 329	5
Bull. Soc. Math. France	1872	SMF	167 45 178	2 598	2 833 1 504		10
Mém. Soc. Math. France	1964	SMF	134 17 324	396	459 412		10
Ann. École Normale Sup.	1864	ÉNS*	297 67 000	1 820	2 114 1 318		5

* Contract with commercial publisher, ¹ Before & after deduplication, ² Bibliographic items, with links to ZM, to NUMDAM

Intellectual Property rights (A)

Intellectual Property rights (A)

– Author rights

- * Each author will be asked for authorization to display the retro-digitized paper on internet
- * Digital rights on every paper will remain property of the owner of each Serial (with usage delegation to NUMDAM)

– Editor and publisher rights

- * Gain new (non exclusive) rights on retro-digitized files
- * Agree to a *moving wall* : after N years, digitally published papers are freely accessible on NUMDAM

Intellectual Property rights (B)

Intellectual Property rights (B)

- NUMDAM data base
 - * Metadata, OCR files are property of the NUMDAM program (CNRS)
 - * Common metadata [OAI] will be freely available through convenient agreements
 - * Archive in BnF
- NUMDAM access
 - * Free, under the rules of the *fair use*
 - * For archiving and file format maintenance, contribution could be asked from libraries

Reference linking

Reference linking

- From one paper to its reviews (JFM, ZM, MR)
- From one bibliographical item
 - to the digitized paper (e.g. NUMDAM)
 - to bibliographical databases (JFM, ZM, MR) and from there eventually to digital/ized document

Reference linking

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- From one bibliographical item
 - to the digitized paper (e.g. NUMDAM)
 - to bibliographical databases (JFM, ZM, MR) and from there eventually to digital/ized document
- ← To NUMDAM or concerned Serial's site
 - from bibliographical databases (JFM, ZM, MR)
 - from specialized bibliographies (e. g. RBSM)
 - via OpenURL implementations

Full entry

[Choquet, Gustave](#); [Meyer, Paul-André](#)

Existence et unicité des représentations intégrales dans les convexes compacts quelconques. *Annales de l'institut Fourier*, **13** no. 1 (1963), 139–154

Full text [djvu](#) | [pdf](#) | Reviews [MR 26 #6748](#) | [Zbl 0122.34602](#)

Abstract

Cet article est un exposé synthétique des résultats, obtenus ces dernières années, sur la représentation des points d'un convexe compact d'un espace vectoriel localement convexe séparé, comme barycentre d'une mesure positive portée, en un sens à préciser, par l'ensemble de ses points extrémaux.

On donne plusieurs caractérisations du cas où cette représentation est unique. Enfin on applique les résultats obtenus à l'étude de la frontière associée à un sous-espace vectoriel de $C(Q)$ où Q est un espace compact.

Bibliography

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3. DML : A VISION

Digital Mathematics Library

www.library.cornell.edu/dmlib

Digital Mathematics Library

www.library.cornell.edu/dmlib

« In light of mathematicians' reliance on their discipline's rich published heritage and the key role of mathematics in enabling other scientific disciplines, the Digital Mathematics Library strives to make the entirety of past mathematics scholarship available online, at reasonable cost, in the form of an authoritative and enduring digital collection, developed and curated by a network of institutions. »

Steering Committee

Content
Rights and Licenses

Technical Standards
Archiving

Metadata
Economic Model

Digital Mathematics Library

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Cornell – Gallica – Göttingen – NUMDAM – EMANI – ...
NSF • CNRS • DFG • FP6 • ...

Washington 7/2002

Grenoble 3/2003

Berlin 5/2003

4. THE LINUM SERVICE

LINUM : **L**ivres **N**umérisés **M**athématiques

www-mathdoc.ujf-grenoble.fr/linum/linum_en.html

LINUM : Livres Numérisés Mathématiques

www-mathdoc.ujf-grenoble.fr/linum/linum_en.html

		Query	Format	Volumes
Gallica*	Paris	keyword	html	661 675 [†]
Historical Math Monographs	Cornell		tagged	504
Making of America	Michigan	LC	marc	45
Historical Mathematics	Michigan		marc	772
Mathematica	Göttingen		xml	386

Examples : Lebesgue (1901 \int), Legendre, Collected works (Abel, Gauß, Poincaré, Riemann, . . .), J. math. pures appliquées (1836-1880), Int. Congress (1897), . . .

* The Cellule MathDoc is *Pôle scientifique associé pour les mathématiques* with the BnF † With limited access

5. WHAT MATHEMATICIANS NEED

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Because Mathematics is a cumulative science where published literature has a key role, mathematicians need

- Easy access to literature
- Long term and public archives
- *Libraries* with scientific quality (refereed content, fine indexing)
- Reasonable economic models
- Documents as logical units and reference hyperlinking

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See *Best Current Practices: Recommendations on Electronic Information Communication* (IMU)

Cellule MathDoc (CMD)	SOME URL I	www-mathdoc.ujf-grenoble.fr
CNRS		www.cnrs.fr
CCSD		www.ccsd.cnrs.fr
Réseau national biblio. math. (RNBM)		www.biblio.math.jussieu.fr/reseau.html
NUMDAM		www.numdam.org
LINUM		www-mathdoc.ujf-grenoble.fr/linum
Répertoire biblio. des sciences math. (RBSM)		www-mathdoc.ujf-grenoble.fr/rbsm
J. math. pures appliquées (1836-1880)		www-mathdoc.ujf-grenoble.fr/jmpa
Thesis/Habilitation index (CMD)		www-mathdoc.ujf-grenoble.fr/these.html
Thèses En Ligne (TEL)		tel.ccsd.cnrs.fr
Preprint index (CMD)		www-mathdoc.ujf-grenoble.fr/prepub.html
Hyper Article en Ligne (HAL)		hal.ccsd.cnrs.fr
Annales de l'Institut Fourier		annalif.ujf-grenoble.fr
Journées Équations aux dérivées partielles		www.math.sciences.univ-nantes.fr/edpa
Institut des hautes études scientifiques (IHÉS)		www.ihes.fr
Société mathématique de France (SMF)		smf.emath.fr
Annales École normale supérieure		www.dma.ens.fr/edition/Annales/index.html
Bibliothèque nationale de France (BnF)		www.bnf.fr
Gallica		gallica.bnf.fr

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Digital Mathematics Library (DML)	www.library.cornell.edu/dmlib
European Mathematical Society (EMS)	www.emis.de
International Mathematical Union (IMU)	www.mathunion.org
Zentralblatt Math (ZM)	www-irma.u-strasbg.fr/ZMATH
Mathematical Reviews (MR)	www-irma.u-strasbg.fr/mathscinet
Jahrbuch über die Fortschritte der Mathematik (JFM)	www.emis.de/projects/JFM
Open Archives Initiative (OAI)	www.openarchives.org
EMANI	www.emani.org
Historical Math Monographs (Cornell)	encompass.library.cornell.edu/math
Making of America (Michigan)	moa.umdl.umich.edu
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Mathematica (Göttingen)	gdz.sub.uni-goettingen.de