

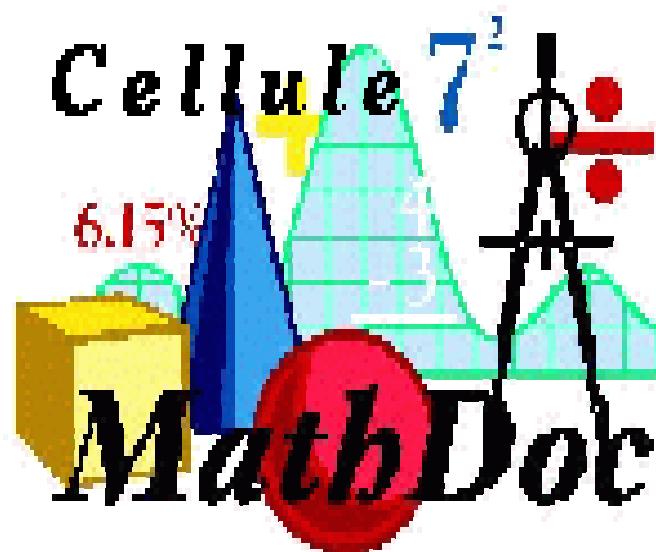
Diffusion and visibility of (pre)- publications, French experiment.

(in Mathematics)

Electronic documentation in France. (Pre)Publications in Mathematics

- MathDoc Cell
- CCSD Centre pour la Communication Scientifique Directe
- Electronic documentation (prepubs, thesis, catalogs)
- Digitization (Numdam project)
- Future of electronic publications (in maths)

Cellule MathDoc, UMS 5638



Cellule MathDoc

www-mathdoc.ujf-grenoble.fr

Created December 1995

- An institute on Scientific Information & Communication in Mathematics, supported by Centre National de la Recherche Scientifique (CNRS) and Ministère de la Recherche.
- General mission: documentation issues in mathematics at the national level in France, in cooperation with mathematics libraries and departments.

Cellule MathDoc

www-mathdoc.ujf-grenoble.fr

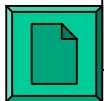
- Yves Laurent (Research Director in Mathematics, CNRS, Grenoble), Director.(formally Pierre Bérard)
- Laurent Guillopé (Professor of Mathematics, Université de Nantes), Vice – Director.
- Engineers (4) : documentation, databases, documentary engineering, web-engineering.
- Managing assistant (1).
- Scientific collaborators and temporary manpower.

Funding

- 4-year grants
Ministry of Education and Research
CNRS
University of Grenoble
- Special grants(->Digitization)
Ministry of Education and Research, CNRS
- European commission
LIMES contract
Large Infrastructure in Mathematics Enhanced Services

MathDoc Cell main activities

- Virtual library projects
 - + National mathematical combined journal catalog
 - + Journal table of contents server
 - + Simultaneous query of distributed library catalogs
 - + EULER
 - + Preprints, thesis and habilitations Index
- European cooperation
 - + Zentralblatt
 - + Limes (European project)
- Digitization (Numdam project)



Preprints, thesis and habilitations Index

- The project creates indexes for online preprints, thesis and habilitations. Shadow file DC metadata is gathered from different sites in France. This index is one component of the international index Math-Net.preprints/MPRESS which has a mirror in Grenoble.
- One can query the index, or browse by author name or thesis date.
- The query is made through EDBM, a software developed by MathDoc and used in Numdam, Euler, ZentralBlatt.

Virtual libraries: problems

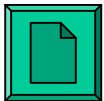
- Access problems (if some site is temporarily closed)
- Maintenance problems (moving, disappearing sites)
- Long term preservation (has to be managed by each site)

Centre pour la Communication Scientifique Directe (CCSD)

(<http://ccsd.cnrs.fr/>)

General depository for all sciences

- TEL: Thèses en Ligne
- HAL: Hyper Article en Ligne
- CEL: Cours en Ligne



CCSD: aims

- Collaboration with ArXiv
 - +Depository->ArXiv
 - +Mirror of ArXiv
- Domains not covered by ArXiv
 - +e.g. Sociology...
- !Conservation (esp. Thesis)
- More Metadatas
- Not all preprints in the control of the same institution

NUMDAM

Digitisation of Ancient Mathematics Documents

NUMérisation de Documents Anciens Mathématiques

A digitisation program supported by
and Ministère de la Recherche,
managed by the Cellule MathDoc.



NUMDAM I

Journals

Title	Period	Pages
Annales de l'Institut Fourier	1949-2000	51 000
Publications mathématiques (IHÉS)	1959-2000	17 000
Bulletin de la Société mathématique de France	1872-2000	45 000
Mémoires de la Société mathématique de France	1964-2000	17 000
Journées équations aux dérivées partielles (Saint-Jean-de-Monts)	1975-2000	5 000
Annales scientifiques de l'École normale supérieure (Gauthier-Villars/Elsevier)	1864-2000	67 000

NUMDAM – Phase II

Aims

- Digitization of all French mathematics journals.
- Digitization of collections of important seminars.
- Digitization of other important mathematical archives.

Next Digitisations

- Séminaire de probabilités de Strasbourg
- Publications de l'Institut Henri Poincaré

Political choices

- Database freely accessible on the web.
- Full text freely accessible after a moving – wall (depending on each serial).
- Scheduled interoperability between retro-digitized and natively digital collections.
- Retrocession of digitised files to owners of journals.

Technical choices

- Scan from first to last page @ 600 dpi.
- OCR (non-corrected @99,9%, mathematical formulae and images excluded).
- Multi-page files for logical units (TIFF, PDF + hidden text, DjVu).
- End-of-article bibliographies treated (corrected OCR @ 99,99% + mark-up of “ author ”, “ title ”, “ year ” fields)
- Database : cataloguing data for each article, summary (if present), end-of-article bibliography (if present), hidden OCRed text. Structured data exchange in XML.
- In as far as possible links to/from JFM, ZM and MR databases.

Production choices

- Use of an external operator for every manual task, apart from cataloguing.
- « In house » study, segmentation, and cataloguing.
- Quality and durability policy :
 - ✓ Prefer standard and easily convertible formats, as sources of future processing if necessary (TIFF, XML), not be tied to a proprietary system.
 - ✓ Archive high quality images, which should allow to regenerate the text (formula OCR, structure recognition).

Numdam I

	<i>Years</i>	<i>Digitised</i>	<i>Pub. access</i>
Annales Inst. Fourier	1949-1997	2002	Dec 2002
Journées EDP	1974-2000	2002	Dec 2002
Pub. Math. de l'IHES	1959-1997	2002	Feb 2003
Bulletin de la SMF	1872-1992	Feb 2003	Mar 2003
Mémoires de la SMF	1964-1992	April 2003	Jul 2003
Annales de l'ENS	1864-1997	Sept 2003	Oct 2003

NUMDAM I : Moving – walls

Serial	Period	Moving–wall (yrs)
Annales de l’Institut Fourier	1949 – 2000	5
Publications mathématiques (IHÉS)	1959 – 2000	5
Bulletin de la Société mathématique de France	1872 – 2000	10
Mémoires de la Société mathématique de France	1964 – 2000	10
Journées équations aux dérivées partielles (Saint-Jean-de-Monts)	1975 – 2000	0
Annales scientifiques de l’École normale supérieure	1864 – 2000	5

Search and download archives of mathematical journals published in France

2003/03/16

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NUMDAM project

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Plug-ins PDF et
DjVu

New display (March 2003)



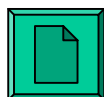
Annales de l'institut
Fourier (1949-1997)



Journées Équations aux
dérivées partielles (1974-2000)



Publications mathématiques de
l'IHÉS (1959-1997)



www.numdam.org

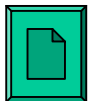
Future of Electronic Publications

More specific to Mathematics:

- Need long term preservation
- Use of TeX

General Problems

- Progressive disparition of small editors
- Increasing prices of journals



Mathematics and long time preservation

Time scales in mathematics and in other fields differ: ideas and techniques from decades or even one hundred years ago are relevant, sometimes crucial, for solving contemporary problems in mathematics or for applying mathematics to other sciences and technology.

Mathematicians, as well as those who use or apply mathematics, need to rely on previously established results, results they may not always be able to check by themselves.

Electronic Prepublications vs Publications

- High quality prepublications (TeX)
- Increasing prices of journals
- Large Database(ArXiv) increase quality of cross-linking,search...
- Quality of validation by peer-review
- Preservation by paper publications

Preservation and long-term access

- Up to now, libraries have guaranteed preservation, archiving and permanent access.
- With the introduction of licensing practices, we have two main concerns today: preservation & archiving and long-term access.

Preservation and long-term access

- Who will guarantee long-term preservation?
- How to prepare future change of formats in electronic publications?.