



An Accident Waiting to Happen

Alexander Wagner
Graz, 2018

Overview



- > Geschichte: 1960 – 1990
- > Geschichte: 1991 – 2012
- > Preprints in Zahlen

Geschichte 1960 - 1990



1960..1975 = WWW - 29..14 Jahre

- 1930 Berkeley: Zyklotron
- 1950 Synchrotron
- 1952 Brookhaven: Cosmotron
- 1954 CERN Gründung
Berkeley: Bevatron
- 1956 JINR Gründung
- 1957 CERN: Synchrozyklotron SC
JINR: Synchrophasotron
- 1959 DESY Gründung
CERN: Protonsynchrotron PS
- 1960 CERN: PS
DESY: Deutsches Elektronen-Synchrotron
- 1962 SLAC Gründung
- 1966 SLAC Linear Accelerator
- 1967 Fermilab Gründung
- 1971 CERN: ISR / Gargamelle
- 1972 SLAC: SPEAR
- 1974 DESY: DORIS
- 1954 CERN organisiert Preprintaustausch (Luisella Goldschmidt-Clermont)
- 1962 SLAC Library sammelt und katalogisiert Preprints systematisch (Kartenkatalog)
- 1969 *Preprints in Particles and Fields*: wöchentlicher, subskriptionsbasierter Abstractservice, SLAC Library
- 1974 SPIRES HEP Database + Kartenkatalog
SLAC + DESY Kollaboration
DESY Bibliothek organisiert die Erschließung der Preprints
- 1975 ca. 70 Preprints/Woche für SPIRES



1976..1990 = WWW - 13..0 Jahre

1976 CERN: SPS

1978 DESY: PETRA

1980 SLAC: PEP

1983 Fermilab: Tevatron

1987 DESY: DESY II

1987 Fermilab: Tevatron

1988 DESY: DESY III

1989 CERN: LEP

1989 CERN: LEP

1990 DESY: HERA

1990 DESY: PETRA II

1979  Knuth, Donald E.: *T_EX and METAFONT*

1982 SLAC Library gibt den Kartenkatalog auf

1985 SPIRES Fernzugriff (ohne SLAC account)

- qspires@slacvm.bitnet
- qspires@vm.slac.stanford.edu

116 pp/W, SPIRES: 141k Records

1986  Lamport, Leslie: *L_AT_EX*

1988 Astrophysics Data System (ADS)

1990 143 pp/W, SPIRES: 200k Records

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März 1989: "Mesh"

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1990 DESY: PETRA II



(Screenshot: CERN)

1979 Knuth, Donald E.: *T_EX* a

1982 SLAC Library gibt den Kart

1985 SPIRES Fernzugriff (ohne SL/

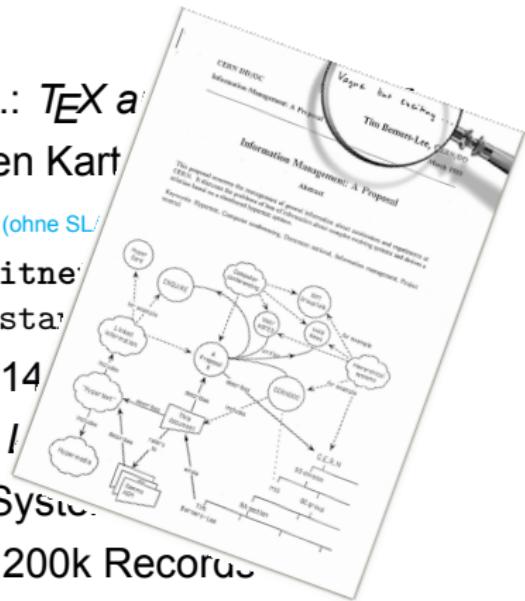
- qspires@slacvm.bitnet
- qspires@vm.slac.stanf.edu

116 pp/W, SPIRES: 14

1986 Lampert, Leslie: I

1988 Astrophysics Data System

1990 143 pp/W, SPIRES: 200k Recor

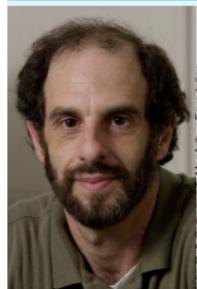


März 1989: "Mesh"

Information Management: A Proposal

Tim Berners Lee, CERN

Paul Ginsparg

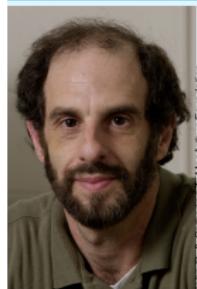


John D. & Catherine T. MacArthur Foundation

"The rapid acceptance of electronic communication of research information in my own community of high energy theoretical physics was facilitated by a pre-existing preprint-culture, in which **the irrelevance of refereed journals to ongoing research has long been recognized.**"

(P. Ginsparg, 1995)

Paul Ginsparg



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- > technisches Know-How
- > \TeX / \LaTeX als Lingua Franca
- > Bitnet / Internet / email
- > Hardware

Paul Ginsparg



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(Tom Scott, CC BY-NC-SA 2.0)

≈7k – 15k\$ damals
≈13k – 29k\$ heute

Geschichte 1991 - 2012



To: hep-th@xxx.lanl.gov

Wed, 14 Aug 1991 22:25:19 GMT

James H. Horne, Gary T. Horowitz

Exact Black String Solutions in Three Dimensions



To: hep-th@xxx.lanl.gov

Wed, 14 Aug 1991 22:25:19 GMT

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Exact Black String Solutions in Three Dimensions

hep-th/9108001 via eMail



To: hep-th@xxx.lanl.gov

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Exact Black String Solutions in Three Dimensions

hep-th/9108001 via eMail

- > hep-th/9108002: Thu, [15 Aug 1991](#) 16:35:28 GMT
- > hep-th/9108003: Thu, [15 Aug 1991](#) 17:12:38 GMT
- > hep-th/9108004: Fri, [16 Aug 1991](#) 19:18:00 GMT
- > hep-th/9108005: Mon, [19 Aug 1991](#) 14:39:33 GMT
- > ...



To: hep-th@xxx.lanl.gov

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Exact Black String Solutions in Three Dimensions

[hep-th/9108001 via eMail](https://arxiv.org/abs/hep-th/9108001)

- > hep-th/9108002: Thu, [15 Aug 1991](https://arxiv.org/abs/hep-th/9108002) 16:35:28 GMT
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- > ...



(phys.org, 2011)

xxx.lanl.gov

1991..2012: WWW + 1...



1991..2012: WWW + 1...

- 1992 JINR: Nuclotron
- 1993 NCSA Mosaic
- 1994 WWW jenseits HEP
Gründung: W3C
ADS-Webfrontend



Search the SLAC Web

Search term:

Search Options: All text Subject Author Date File name Document Previous Next

SLAC-Wide Search Tool

This page provides a search of the SLAC Web. The hope is that when you search the database for something you're going to find a detailed description of what it is in the database. The primary option is to do a regular search or a search for a specific author (e.g., [arXiv as author](#)). It is also possible to search by [page length](#) or [file size](#). We also support a [more detailed search form](#) that provides additional search options using [Ranges](#), and a [PDF Index](#) that does not pre-purchase the license information.

Sample search tips are available. [Feedback](#) or [Help](#) (including a [FAQ](#)) is encouraged.

Search form:

SLD Search Tool

You can use the SLD engine to search SLAC Web space for documents that contain references to particular words, e.g., [arXiv](#) and so on. If you give multiple words, the search will return results that contain all of the specified words. [Feedback](#) or [Help](#) (including a [FAQ](#)) is welcome.

Search form:

1991..2012: WWW + 1...

- 1992 JINR: Nuclotron
- 1993 NCSA Mosaic
- 1994 WWW jenseits HEP
Gründung: W3C
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The screenshot shows the SLAC Wide Search Tool interface. At the top, there's a search bar with the placeholder "Search the SLAC Web". Below it is a navigation menu with links for "Home", "Advanced", "Search", "What Now", "Search", and "Feedback". A status message "1 Doc page" is displayed. The main content area has sections for "SLAC-Wide Search Tool", "Baker Search Tool", and "SLD Search Tool". Each section contains descriptive text and input fields for searching.

1994 APS: "*Installing and learning to use a WorldWideWeb browser is a complicated and difficult task – we can't possibly expect this of the average physicist.*"

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A screenshot of the SLAC Wide Search Tool interface. The page title is "Search the SLAC Web". It includes search fields for "Text", "Author", "Subject", "Number", "Date", "Type", and "Journal". Below the search bar is a link to "SLAC-Wide Search Tool". A note states: "This page searches a subset of the SLAC Web. The hope is that when you find what you're looking for, we'll give you a detailed description of what it is in the details page. The primary purpose of this website is for [arXiv](#) and [hep-ex](#) to be available as well as a repository of [pages](#) from [hep-ph](#). We also support a [more detailed search form](#) that provides replacement search options using [Google](#), and a [PDF Index](#) that does not pre-process the LaTeX summaries. Sample search tips are available. [Feedback](#) or [Help](#) is welcome." Below this is the "BibTeX Search Tool" section, which says: "You can use the BibTeX engine to search BibTeX Web space for information. [Feedback to Tom Clancy](#) is welcome. Technical questions/feedback should be sent to [Peter Meier](#)". It includes a search form with fields for "Search" and "Reset".

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1995 *Year of the Internet* (Newsweek)

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Gründung: W3C
ADS-Webfrontend
- 1997 Gründung: Google
- 1999 SLAC: PEP-II
- 2000 .com
- 2002 Fermilab:
Tevatron-II
- 2008 CERN: LHC
- 2012 INSPIRE-HEP
ersetzt SPIRES

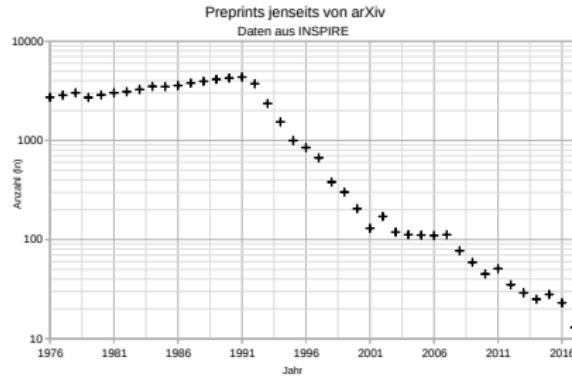
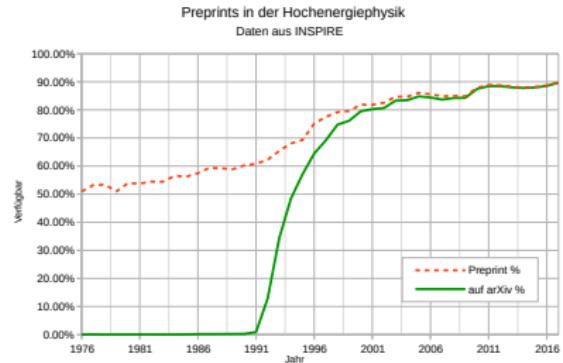
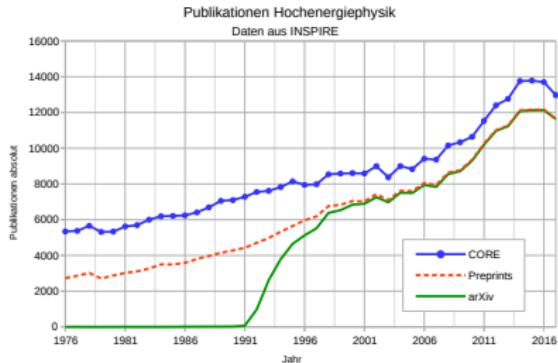


Two screenshots of early web interfaces. The top one is the SLAC Wide Search Tool, showing a search bar and results for "hep-th". The bottom one is the SLAC physics e-Print archive interface, showing a search form for "hep-th" and a list of results.

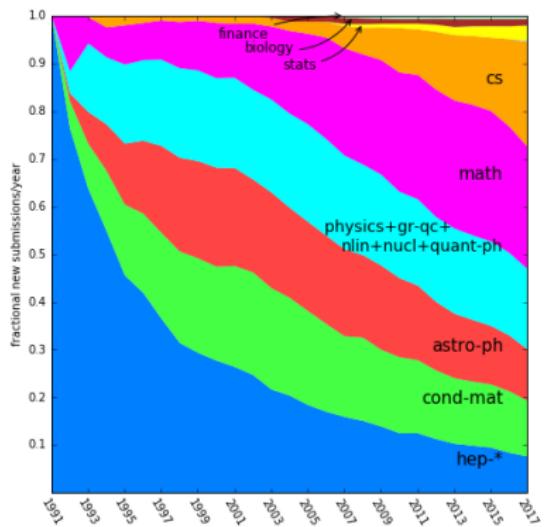
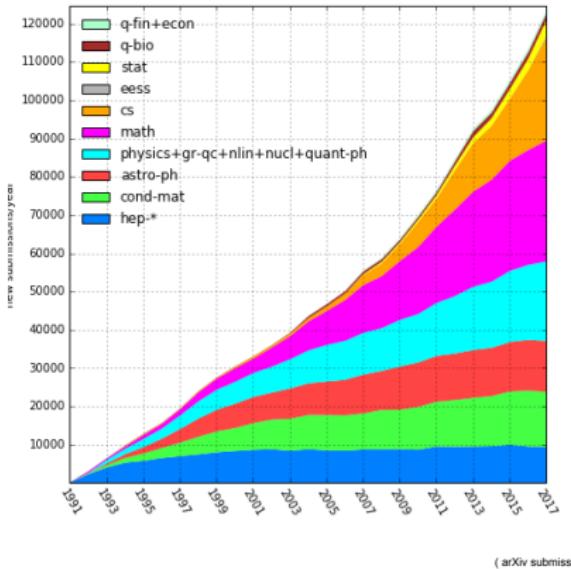
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1995 *Year of the Internet* (Newsweek)

Preprints in Zahlen



arXiv-Submissions



Finanzierung

Member contributions	\$500,400	≈431.000€
Simons Foundation Annual Commitment	\$100,000	≈86.000€
Simons Foundation Matching Fund	\$300,000	≈258.000€
Cornell University Library	\$170,000	≈146.000€
Sloan Foundation (Jan-April)	\$146,856	≈126.000€
Heising-Simons Foundation (Apr-Dec)	\$107,333	≈92.000€
Development Reserves	\$60,000	≈52.000€
Gifts	\$50,000	≈43.000€
Gesamt	\$1,434,588	≈1.230.000€

s.a. arXiv Budgets and Reserve Fund Policy, 2016



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Pro Einrichtung und Jahr

\$1.000 bis maximal \$4400
(≈ 860€ bis 3800€)



Finanzierung

Member contributions	\$500,400	≈431.000€
Simons Foundation Annual Commitment	\$100,000	≈86.000€
Simons Foundation Matching Fund	\$200,000	≈172.000€
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Article Processing Charges

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s.a. arXiv Budgets and Reserve Fund Policy, 2016

Article Processing Charges

1.230.000€ / 123.523 (Artikel 2017) = 9.96€

Pro Einrichtung und Jahr

\$1.000 bis maximal \$4400
(≈ 860€ bis 3800€)

Finanzierung

Member contributions	\$500,400	≈431.000€
Simons Foundation Annual Commitment	\$100,000	≈86.000€
Simons Foundation Matching Fund	\$200,000	≈8.000€
Cornell University Library	\$100,000	≈6.000€
Scholarships	\$120,000	≈1.20.000€
Gifts	\$92,000	≈92.000€
Gesamt	1.230.000€	≈52.000€

Article Processing Charges
1.230.000€ / 123.523 (Artikel 2017) = 9.96€

s.a. arXiv Budgets and Reserve Fund Policy, 2016



Vielen Dank!

Contact

DESY. Deutsches
Elektronen-Synchrotron

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[10.3204/PUBDB-2018-02907](https://doi.org/10.3204/PUBDB-2018-02907)



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