German Physical Society (DPG)

Regensburg

26-30 March 2007

Why researchers publish their work

‘Old’ paradigms

- Use of proxy measures of an individual scientist’s merit is as good as it gets
- It is a journal’s responsibility to disseminate your work
- Printed article is the format of record
- Other scientists have time to search out what you want them to know

‘New’ paradigms

- Rich, deep, broad metrics for measuring the contributions of individual scientists
- Effective dissemination of your work is now in your hands (at last)
- The digital format will be the format of record (is already in many areas)
- Unless you routinely publish in *Nature* or *Science*, ‘getting it out there’ is up to you

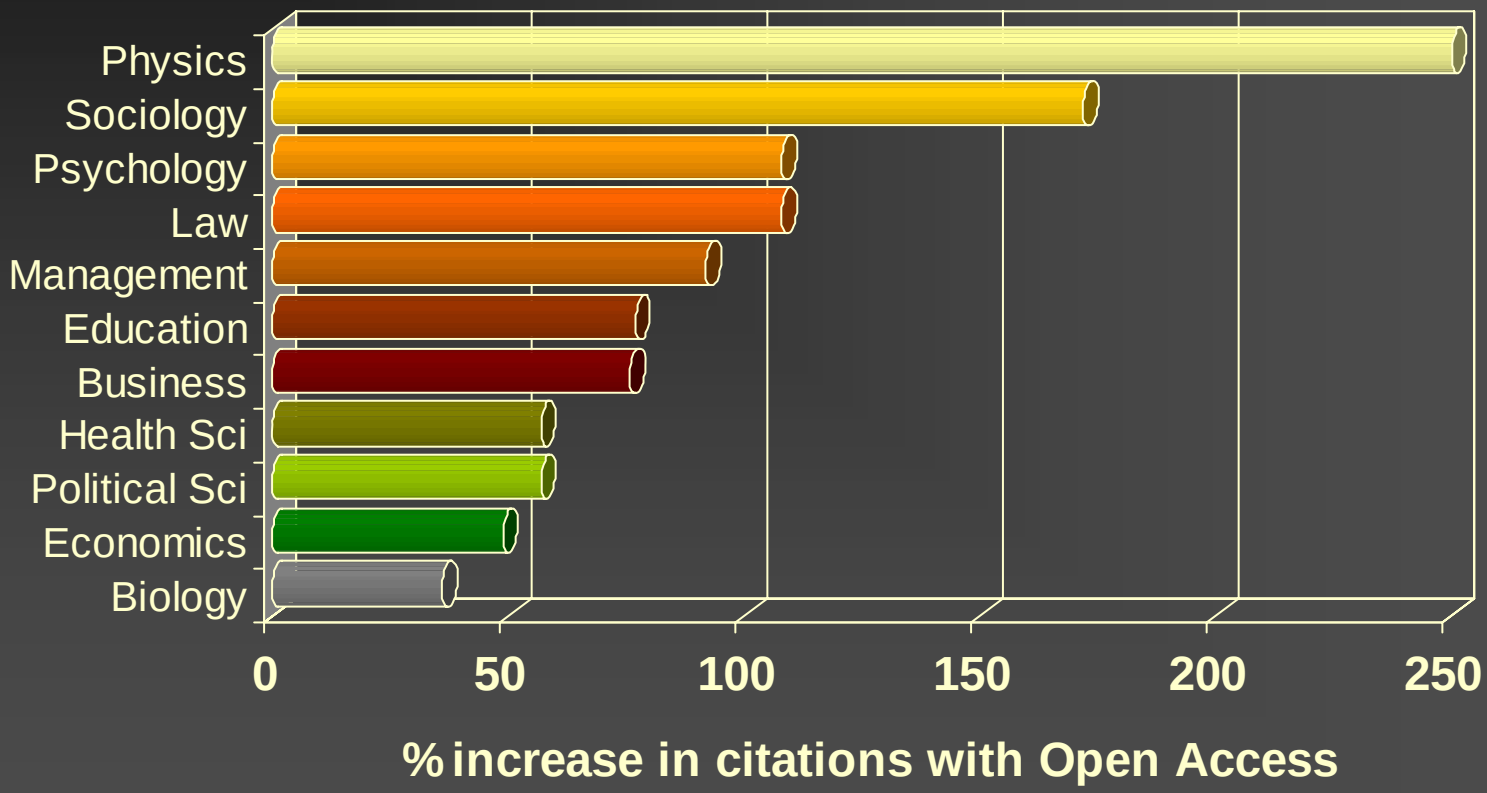
Open Access: What is it?

- Online
- Immediate
- Free (non-restricted)
- Free (gratis)
- To the scholarly literature that authors give away
- Permanent

Open Access: Why should we have it?

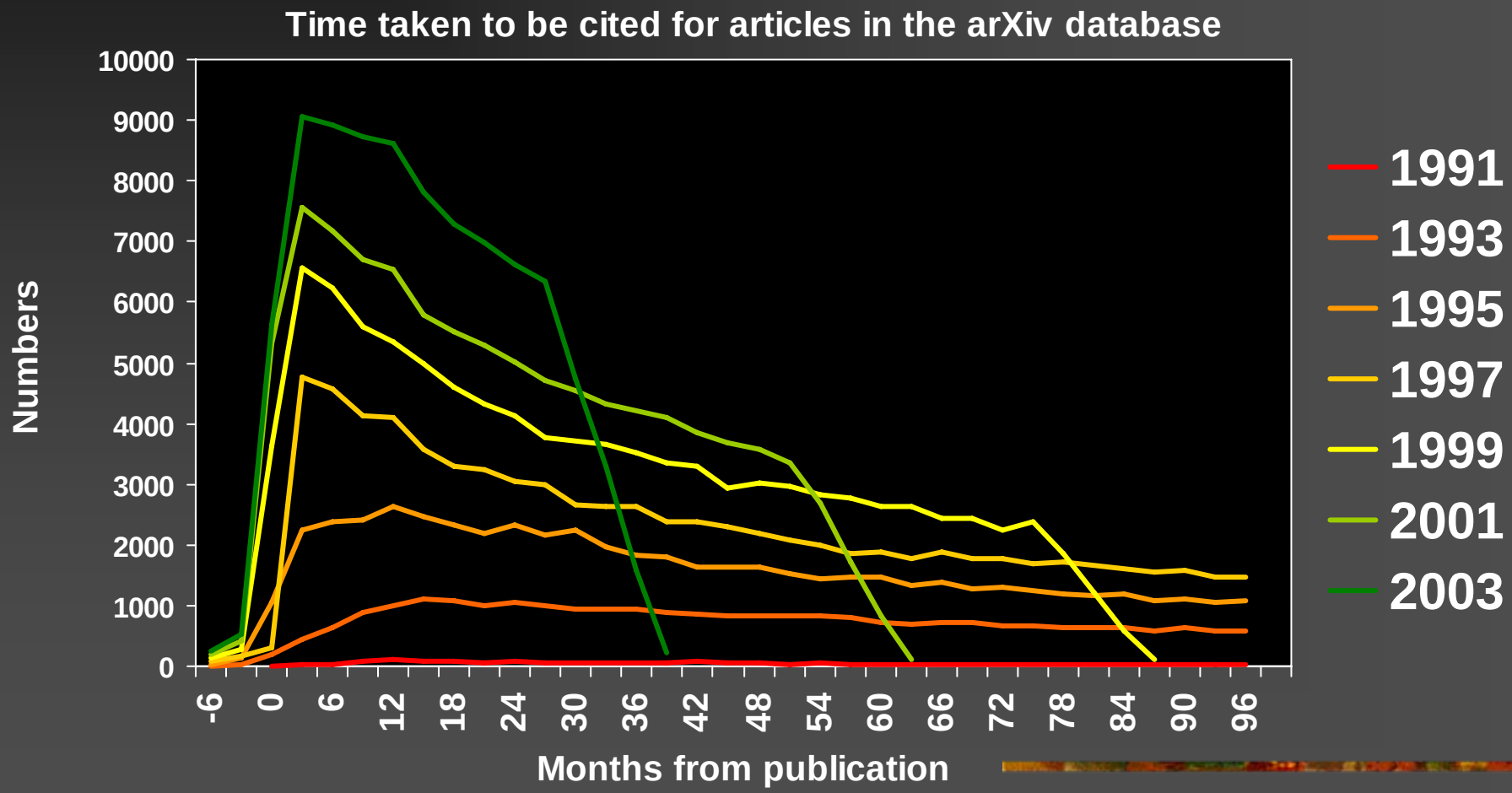
- Benefits to researchers themselves
- Benefits to institutions
- Benefits to national economies
- Benefits to science and society

Open Access increases citations



Range = 50%-200%
(Data: Stevan Harnad and co-workers)

Science is faster, more efficient



Key Perspectives Ltd

Measure, assess, and manage science more effectively

- Assess individuals, groups, institutions, on the basis of citation analysis
- Manage, assess scientific programmes to the benefit of our societies

Navigation and analysis of science output: Citebase

- Find researchers
- Measure citations to articles (not journals)
- Follow the citations through the literature
- Measure downloads (and predict citations)
- Use citation patterns to analyse science

Navigation and analysis of science output: Citebase

citebase **Search** Help (Impact) Health-Warning

Metadata | Citation | OAI Identifier

Identifier (explain?) oai:arXiv.org:hep-th/9802150

Rank matches by Descending Co-citedness explain?

Abstract | References | Co-cites With | **Cited By** | Co-cited With | Clear

Showing **1 - 10** of **2679** found [1-100 in XML, Refer, BibTeX, RSS] Query took 1.192 seconds

Large N Field Theories, String Theory and Gravity [Abstract, 1383 Cites, Cached PDF]

1383 Aharony, O.; Gubser, S. S.; Maldacena, J. et al (1999-05-14) *In* Physics Reports 323 183 (2000)

We review the holographic correspondence between field theories and string/M theory, focusing on the relation between compactifications of string/M theory on Anti-de Sitter spaces and conformal field theories. We review the background for this correspondence and discuss its motivations and the evi ... Comment: 261 pages, 42 post-script figures. Please send any comment to jmaldac@fas.harvard.edu. v2: added references and small corrections. v3: minor changes and corrected discussion of SU(3)-invariant supergravity solution

Strings in flat space and pp waves from *N*=4 Super Yang Mills [Abstract, 809 Cites, Cached PDF]

809 Berenstein, David; Maldacena, Juan; Nastase, Horatiu (2002-02-04) *In* JHEP 0204 013 (2002)

We explain how the string spectrum in flat space and pp-waves arises from the large N limit, at fixed g^2_{YM}, of U(N) *N* =4 super Yang Mills. We reproduce the spectrum by summing a subset of the ... Comment: 36 pages, 5 figures. v3: minor typos corrected, references added

Anti-de Sitter Space, Thermal Phase Transition, And Confinement In Gauge Theories [Abstract, 755 Cites, Cached PDF]

755 Witten, Edward (1998-03-16) *In* Advances in Theoretical and Mathematical Physics 2 505 (1998)

The correspondence between supergravity (and string theory) on AdS space and boundary conformal field theory relates the thermodynamics of *N*=4 super Yang-Mills theory in four dimensions to the thermodynamics of Schw ... Comment: 28 pp., added references and minor corrections

Measure usage and impact

This Article's Citation/Hits History (explain?)

> Top | #Reference List | #Cited By | #Co-Cited | All Citations | All Co-Citations

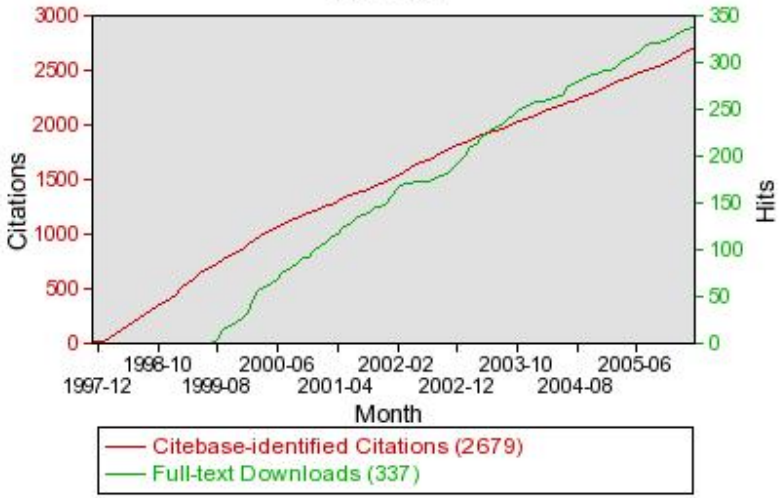
Use the Correlation Generator to explore the correlation between download impact ("hits") and citation impact.

Summary

Citebase is currently only an experimental demonstration. Users are cautioned not to use it for academic evaluation yet. Citation coverage and analysis is incomplete and hit coverage and analysis is both incomplete and noisy.

Caution!	Citations	Full-text Downloads
To this Article	2679	337
To authors (mean)	207.324	90.4604

History



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G/A [1] G. 't Hooft, "A Planar Diagram Theory For Strong Interactions," Nucl. Phys. B72 (1974) 461.
eprint [2] A. M. Polyakov, "String Theory And Quark Confinement," hep-th/9711002.
G/A [3] G. Gibbons, Nucl. Phys. B207 (1982) 337
eprint R. Kallosh and A. Peet, Phys. Rev. B46 (1992) 5223, hep-th/9209116
eprint S. Ferrara, G. Gibbons, R. Kallosh, Nucl. Phys. B500 (1997) 75, hep-th/9702103.
G/A [4] G. Gibbons and P. Townsend, "Vacuum Interpolation In Supergravity Via Super pBranes," Phys. Rev. Lett. 71 (1993) 5223

Follow the citing trail …

Anti De Sitter Space And Holography

Authors: Witten, Edward

Recently, it has been proposed by Maldacena that large N limits of certain conformal field theories in d dimensions can be described in terms of supergravity (and string theory) on the product of d+1-dimensional AdS space with a compact manifold. Here we elaborate on this idea and propose a precise correspondence between conformal field theory observables and those of supergravity: correlation functions in conformal field theory are given by the dependence of the supergravity action on the asymptotic behavior at infinity. In particular, dimensions of operators in conformal field theory are given by masses of particles in supergravity. As quantitative confirmation of this correspondence, we note that the Kaluza-Klein modes of Type IIB supergravity on $AdS_5 \times$ \bf S^5 match with the chiral operators of $\Box$=4 super Yang-Mills theory in four dimensions. With some further assumptions, one can deduce a Hamiltonian version of the correspondence and show that the $\Box$=4 theory has a large N phase transition related to the thermodynamics of AdS black holes.

Comment: 40 pp.; additional references and assorted corrections

Full-text available from: Cached PDF
Linked PDF (experimental)
Adv.Theor.Math.Phys. 2 (1998) 253-291
http://arxiv.org/abs/hep-th/9802150

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- Citations
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- References
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Measure, assess, and manage science more effectively

- Assess individuals, groups, institutions, on the basis of citation analysis
- Track trends: growth, latency, longevity
- Identify hubs and authorities
- Identify silent, ‘unsung’ contributors
- Predict impact, directions
- Manage, assess scientific programmes to the benefit of our societies

New knowledge from old

- Data-mining
- Text-mining (semantic Web technologies)
- UK: National Text-Mining Centre
- Example: NeuroCommons (www.neurocommons.org)

Open Access: how?

- Open Access journals (www.doaj.org)
- Open Access repositories (author ‘self-archiving’)

Repositories: interoperable

- Show their content in a specific form
- Harvested by search engines
- Form a database of global research
- Freely available
- Publicly available
- Permanently available

Institutionally-based repositories

- c900
- Half are institutional or departmental
- Every German university has one
- Growth of 1 per day, but…
- Average number of postprints is 297!

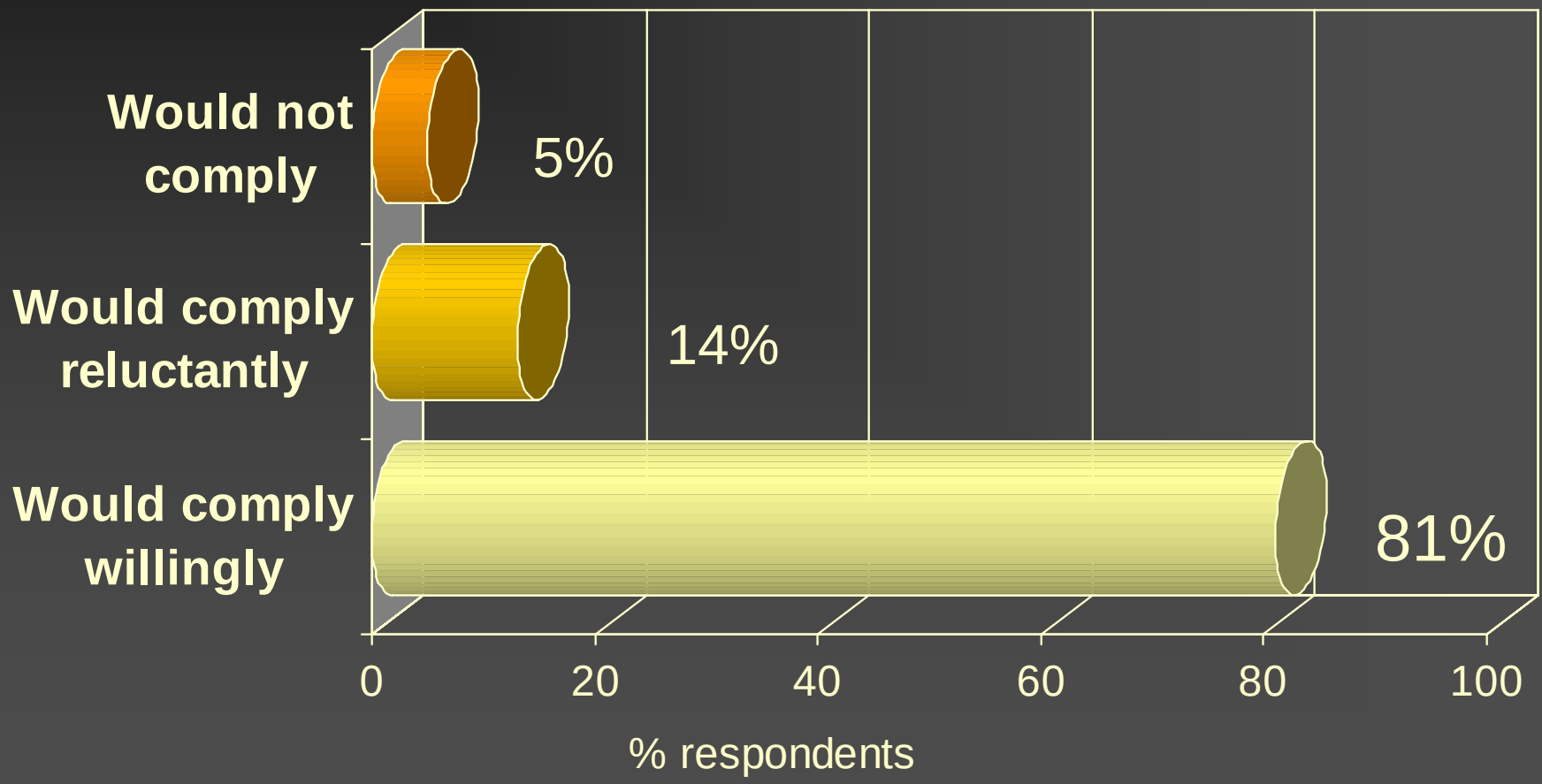
arXiv

- Physics (condensed matter, high energy, astrophysics)
- Mathematics
- Computer science
- Quantitative biology (some)
- 413,086 articles
- The ‘first thing to do’ each morning for physicists in these fields

But where?

- It doesn't matter which repository!
- They are interoperable and their contents are harvested by search engines
- Google and Google Scholar (and many others like these) do the rest for you

Author readiness to comply with a mandate



Why Open Access

- Greater impact from scientific endeavour
- More rapid and more efficient progress of science
- Better assessment, better monitoring, better management of science
- Novel information-creation using new and advanced technologies

Why researchers publish their work

Danke!

aswan@keyperspectives.co.uk

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