
Repositories and Publishers

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19 April 2007

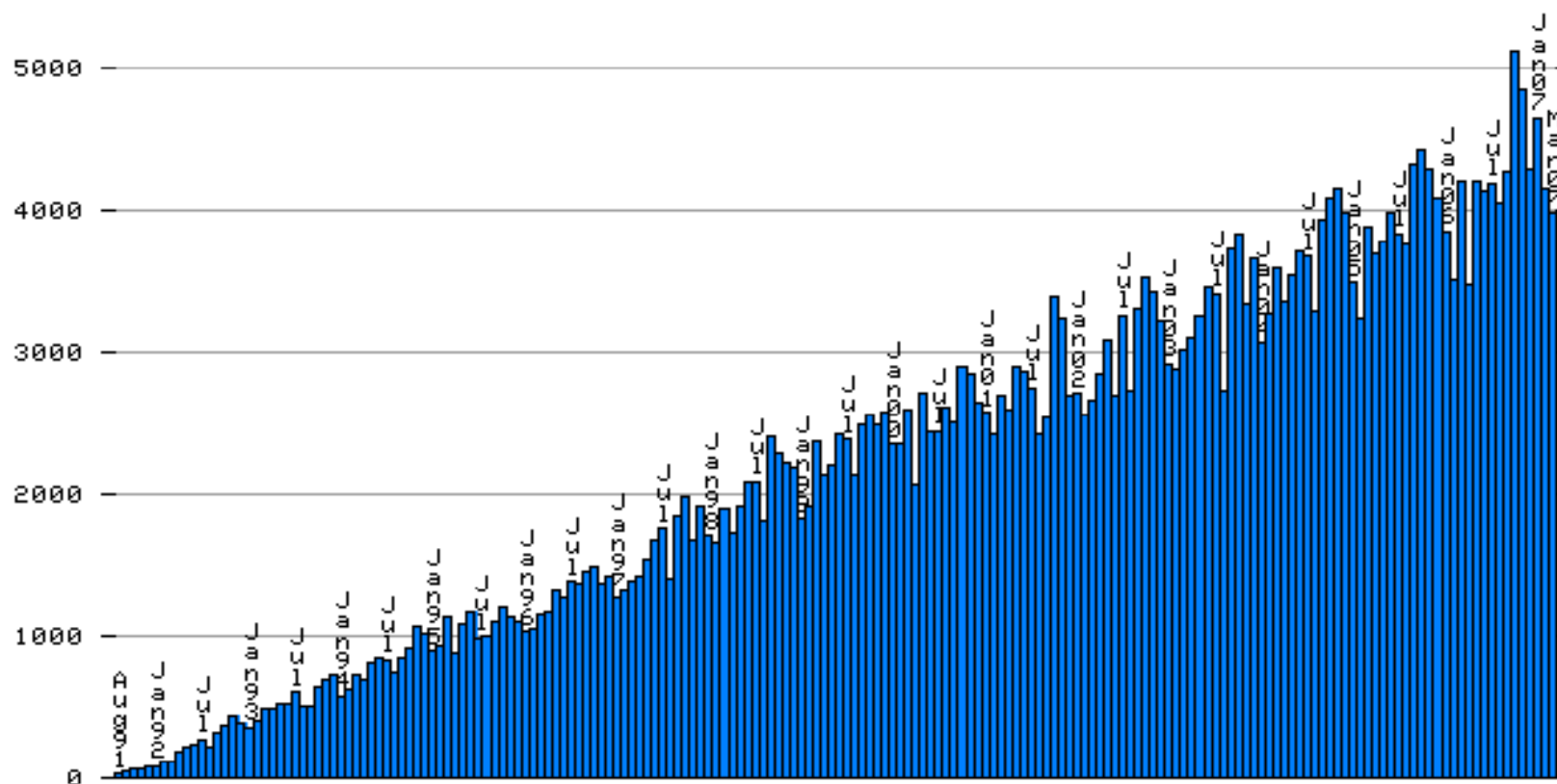
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Outline

- 1. IOP journals and arXiv**
- 2. Future impact of repositories on journals**
- 3. How publishers and repositories might respond**

arXiv.org

Monthly Submission RATE for arxiv.org



First 15.7 years (27 Mar '07 total = 413,480)

arXiv in relation to physics journals

arXiv

- **First 15 years: 410,000 items**
- **50,000 new items in 2006**
- **Physics is largest section**
- **Rapid growth in Maths**
- **More than journal articles**
 - Summer school lectures
 - Conference papers
 - Updates and errata
 - Author versions long after of publication:
Einstein,
physics/0510251

Journals

- **500 peer reviewed physics journals**
- **130,000 articles per year**
- **Growth rate: 4% pa**

arXiv in relation to physics journals

- **High energy physics and astrophysics**
 - Almost 100% of journal articles have an author's version on arXiv
 - Authors are orderly about using arXiv
 - Update with their latest version
 - Reference the journal version
- **Condensed matter physics** – growing, but less orderly
- **Applied physics** – little coverage at present

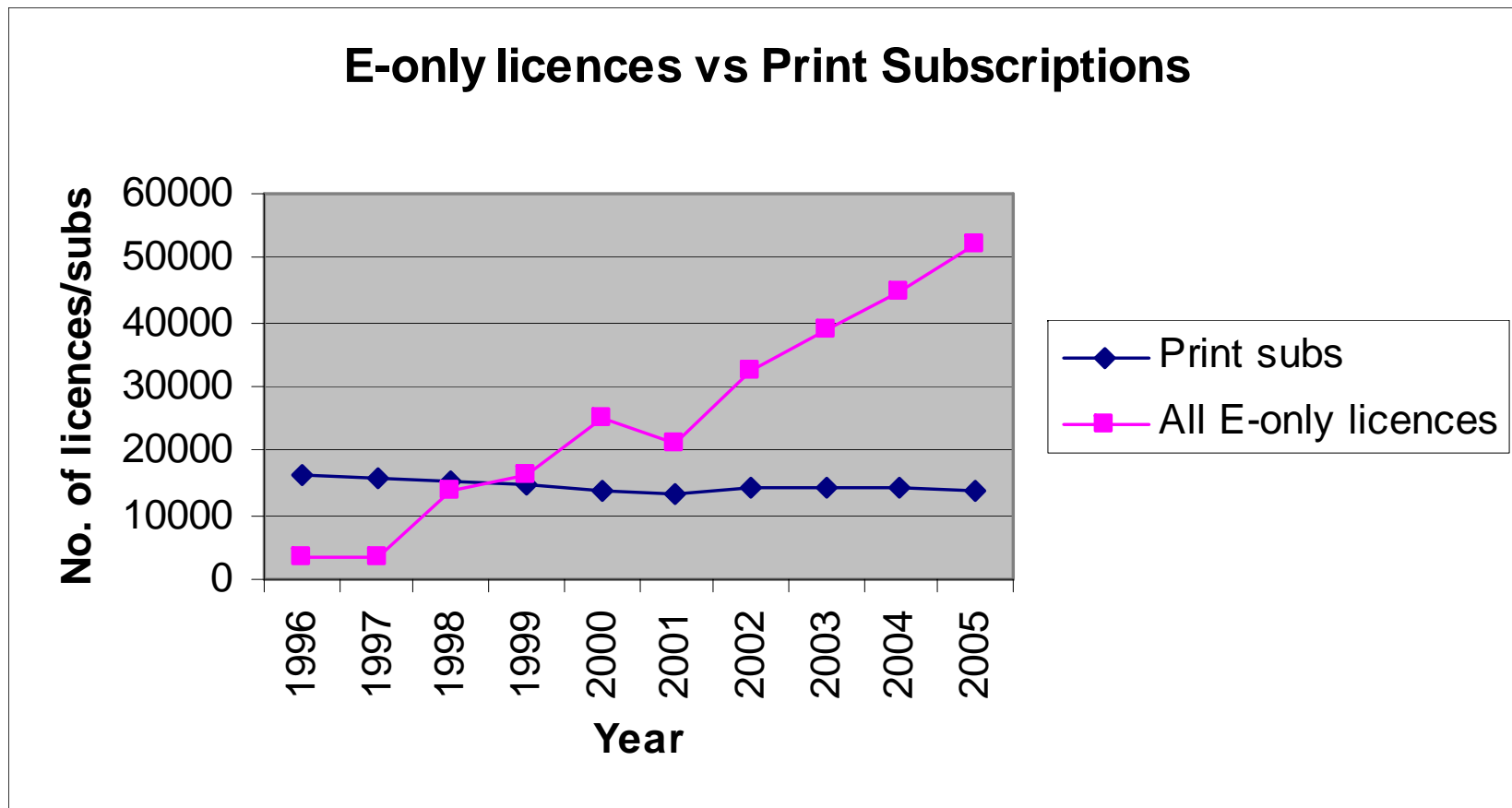
Working with Repositories - IOP Policies

- **Authors may deposit their own versions of articles at any time (“Romeo Green”)**
- **Submission using arXiv e-print number**
- **Invite every author to update e-print records with journal reference**
- **References link to e-prints and journals**
 - Campo D and Parentani R 2005 *Braz. J. Phys.* **35** 1074 (*Preprint* astro-ph/0510445) [CrossRef Link](#) | [Preprint at arXiv.org](#) | [Inspec Abstract](#)

Impact on Submissions, Citations, Subscriptions

- **Submissions / published articles**
 - No apparent pattern
- **Citation performance / impact factor**
 - No apparent pattern
- **Subscriptions / licences**
 - No apparent pattern

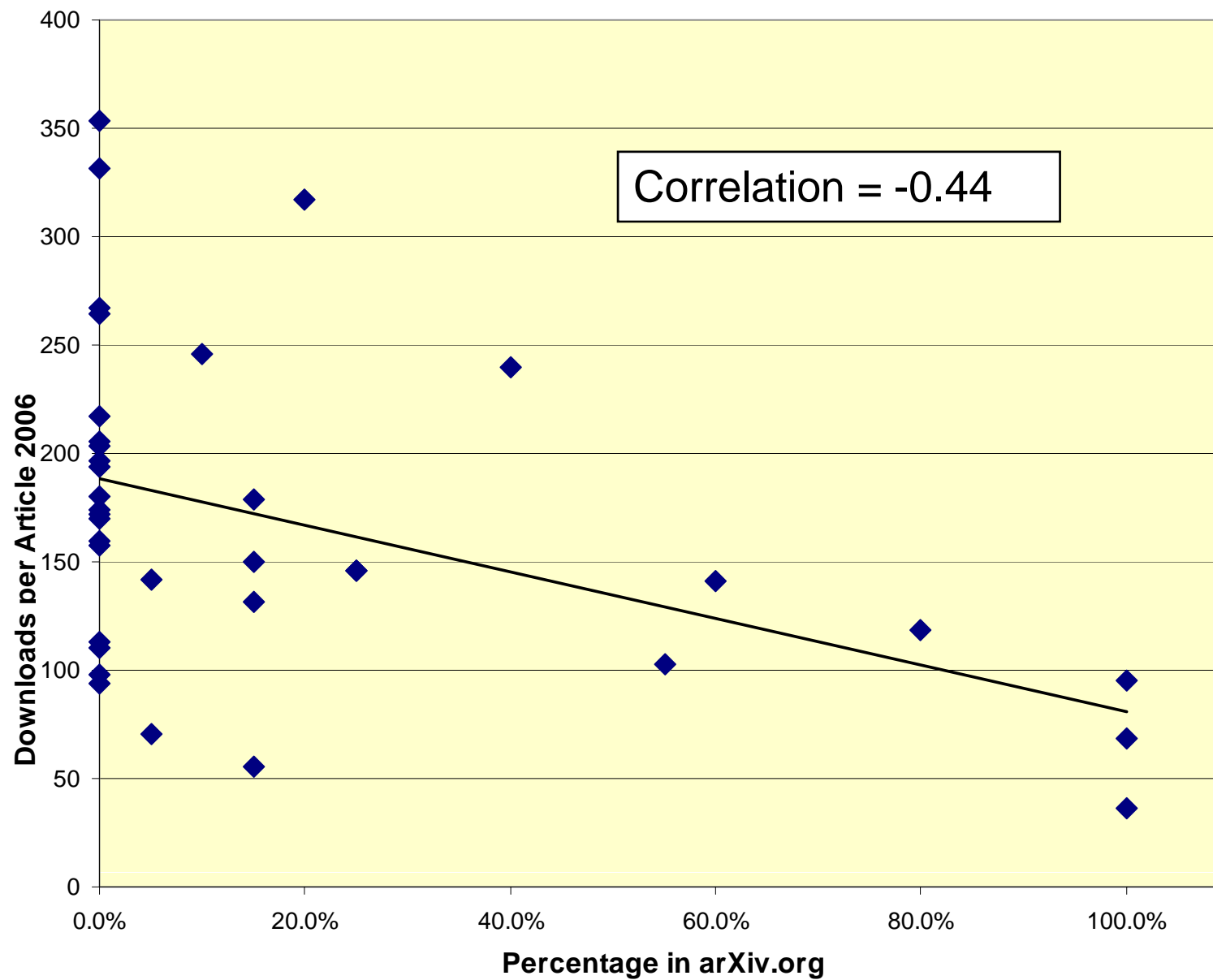
Electronic Licences and Print Subscribers



Impact on Readership

- **Variation not fully explained by quality, community size or culture**
- **Downloads per published article**
 - **Top:** Nanotechnology, Jnl of Micromechanics and Microengineering, Physical Biology
 - **Middle:** J Phys D: Applied Physics, Measurement Sci & Tech, Superconductor Sci & Tech
 - **Lowest:** JHEP, JCAP, Classical & Quantum Gravity
- **Ratio of Top: Middle: Lowest = 10 : 5 : 1**

Scatter Plot of 2006 Downloads per Article vs. Percentage of Articles in arXiv



2. Future impact of repositories

- **Fraction of physics on arXiv will grow**
- **Usage at journal websites may decline?**

- **Librarians making more use of usage statistics (e.g. COUNTER)**
- **Publishers concerned about unfunded mandates**
 - i.e. mandated self-archiving without funds for OA journal publication
 - “Open access – clear benefits, hidden costs”, Rick Anderson, Univ Nevada, Learned Publishing, 20: 83-84 (2007)

Future impact of repositories

- **“ALPSP Survey of Librarians on Factors in Journal Cancellation”, Mark Ware, ALPSP 2006**
- Librarians do not see repositories as a substitute for journals, right now
- But, 81% see the availability of repositories as an important factor in cancellations in the next 5 years

Future impact of repositories

- **“Self-archiving and Journal Subscriptions: Co-existence or Competition?”, C Beckett & S Inger, Publishing Research Consortium 2006**
- Librarians showed an insignificant shift in preference between any version of an article once it has been refereed
- 38% believe publishers should not worry about libraries cancelling subscriptions because of OA repositories
- 38% think publishers should worry
- 40% believe libraries are wasting money buying journals when almost the same content is available free
- 41% disagree

Future impact of repositories

- **Why will libraries continue to subscribe?**
 - Repository version is variable, whilst journals hold a static version of record
 - Journals add features, e.g. linking
 - High impact factor
 - Low price per page, article, citation
 - Awareness of repositories is low
 - Momentum and habit
 - Most journals are in packages
 - Support peer review
 - Society or community journals fare better

3. IOP Responses to Repositories and OA

- **Authors may self-archive**
- **IOP links to arXiv**
- **Improving IOP's publishing services:**
 - Strengthen the quality of peer review
 - Improve indexing and linking
 - Add multimedia, data, citation tracking
 - Add reader services e.g. Editors' highlights, community news
 - Engage in long-term archiving e.g. LOCKS

IOP Responses to Repositories and OA

- **This Month's papers free**
- **Editors' Highlights & Featured Articles**
- **Access to developing countries (eIFL, INASP)**
- **Three pure OA titles**
 - New Journal of Physics, 1998
 - Journal of Physics: Conference Series, 2004
 - Environmental Research Letters, 2006
- **Three hybrid OA titles**
 - Journal of Physics G: Nuclear & Particle
 - JHEP (published on behalf of SISSA)
 - JINST (co-published with SISSA)
- **44% of downloads are to free content**

Eprintweb

- **Institute of Physics is a scientific membership organisation devoted to increasing the understanding and application of physics**
 - Supporting physics and physicists
 - Supporting scientific communication
 - Supporting peer review and ‘journals’

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And



in

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Announcement

The format of article identifiers for new submissions will change from 1 April 2007, due to a new identification system introduced throughout the arXiv.org. [More information is available](#) to help you familiarize yourself with the new format.

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	Today	7 Days
Astrophysics (astro-ph)	41	194
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High Energy Physics - Lattice (hep-lat)	1	4
High Energy Physics - Phenomenology (hep-ph)	11	51
High Energy Physics - Theory (hep-th)	8	50
Mathematics (math)	27	163
Mathematical Physics (math-ph)	5	18
Nonlinear Sciences (nlin)	3	11
Nuclear Experiment (nucl-ex)	0	7
Nuclear Theory (nucl-th)	5	19
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Quantum Physics (quant-ph)	8	42

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- **Added DOI links from arXiv to journals**
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 - 7,800,000 references linked
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cond-mat/0701002 (January 2007)

 β -NMR of Isolated $^8\text{Li}^+$ Implanted into a Thin Copper Film

[Z. Salman](#), [A. I. Mansour](#), [K. H. Chow](#), [M. Beaudoin](#), [I. Fan](#), [J. Jung](#), [T. A. Keeler](#), [R. F. Kiefl](#), [C. D. P. Levy](#), [R. C. Ma](#), [G. D. Morris](#), [T. J. Parolin](#), [D. Wang](#) and [W. A. MacFarlane](#)

Received. 29 December 2006 **Last updated.** 29 December 2006

Abstract. Depth-controlled β -NMR was used to study highly spin-polarized ^8Li in a Cu film of thickness 100 nm deposited onto a MgO substrate. The positive Knight Shifts and spin relaxation data show that ^8Li occupies two sites at low temperatures, assigned to be the substitutional (SS) and octahedral (O) interstitial sites. Between 50 to 100 K, there is a site change from O to SS. The temperature dependence of the Knight shifts and spin-lattice relaxation rates at high temperatures, i.e. when all the Li are in the SS site, is consistent with the Korringa Law for a simple metal.

Categories. cond-mat.str-el

Subject. Strongly Correlated Electrons

Comment. Accepted for publication in Phys. Rev. B

Journal-ref. Phys. Rev. B 75, 073405 (2007)

Published Article doi: [10.1103/PhysRevB.75.073405](https://doi.org/10.1103/PhysRevB.75.073405)

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Critical Current of Type-II Superconductors in a Broken Bose Bose Glass StateJ. P. Rodriguez [arXiv:0704.1536](#) (April 2007)**References**

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Repositories and publishers

- **Recognising complementary strengths**
 - ArXiv provides a highly valued service
 - Physicists value journal prestige
 - Journals add
 - peer review & quality standards
 - editing & formatting,
 - standards of trust & accuracy,
 - indexing & linking,
 - archiving,
 - filtering & community building
 - Both journals and arXiv continue to grow

Repositories and publishers

- **How to work together?**
 - Interoperability, e.g. citation links
 - Version naming conventions e.g. NISO
 - Linking papers to data, multimedia, theses
 - Adding peer review, trust, quality filters
 - Institutions support good value journals
 - Publishers improve journal value
 - Tiered pricing and better 'big deals'
 - Building sustainable funding models
 - Sharing understanding of costs

Conclusion

- **arXiv has impacted on the readership of IOP journals at the IOP website**
- **Librarians are likely to cancel subscriptions if repositories are comprehensive**
- **Publishers & repositories can work together to strengthen peer review and good value journals**