

Extracting trends from an emerging publishing market

- Current journal usage
- Converting to OA while preserving the prestige and ensuring the future
- An invitation to IEEE

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IEEE Library Advisory Council,

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Access to research results

A global issue



- The print era had its natural limitations
- There is no reason to carry any of these limitations forward to the online era
- Today any scientist should have the possibility to read, textmine and publish without being confronted with any financial barriers



Subscription journals vs. OA

- Launching a successful subscription journal is tough. Launching an OA journal is equally difficult. The authors, independent of the publisher's business model, will naturally keep submissions back until a quality record can be available.
- Readers discover new research via various channels. Important results will be cited, independent of the publisher's business model, and libraries are expected to offer perpetual access to these.

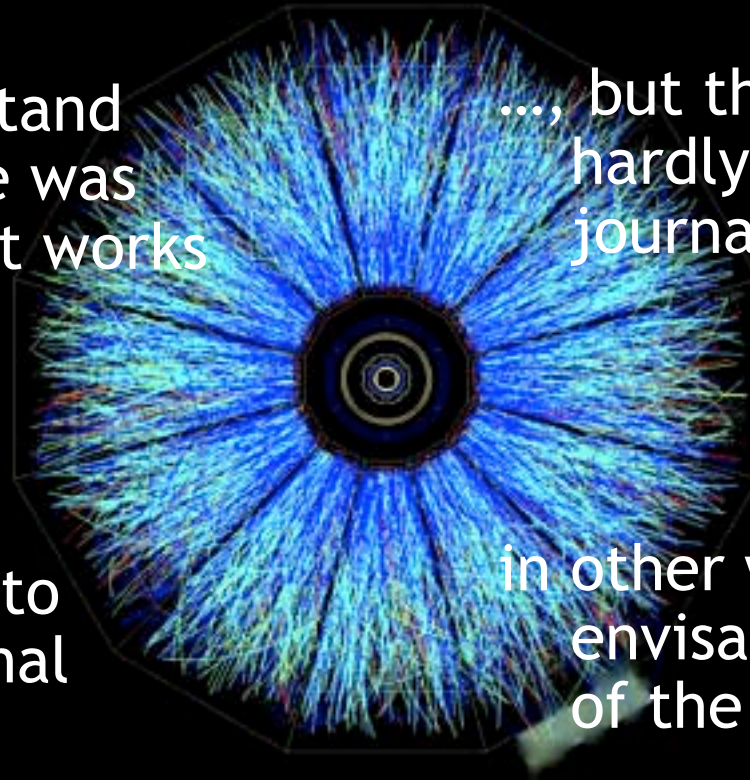
So what is it in the end all about?




High-Energy Physics HEP or Particle Physics

HEP aims to understand
how our Universe was
created and how it works

..., but the community
hardly read scientific
journals any longer



in other words, try to
answer two eternal
questions: 

in other words, try to
envisage the future role
of the journals:

- "What makes the world?"
- "What holds it together?"

- "What kind of income?"
- "Which services to offer?"

The HEP journals and our concerns

- Journals are on the way to lose (have lost?) their role as vehicle of scholarly communication in HEP
- But ... still evaluations of institutes and (young) researchers are based on high-quality peer-reviewed journals. **Journals remain the communication line with officialdom**
- The HEP community **needs** high-quality journals. The main role of journals is to assure high-quality peer-review. Implicitly libraries support this role by purchasing subscriptions, as the scientists reads the papers off arXiv anyhow
- HEP is an “all-arXiv discipline”: journals at high **cancellation risk** by large multidisciplinary libraries. At CERN only 1000 full-text downloads/year for leading HEP journals!

Converting subscription journals to Open Access in the SCOAP³ model

- A continuation of the subscription model might not be the safe way to go...
- A conversion to OA does not require need for additional funds and will ensure continued revenue streams for high-quality non-profit publishers
- A conversion must be smooth, sustainable (... and reversible)



..., but HEP is so different

- True, but...
 - Preprints evolved in HEP; currently it propagates to all fields
 - The Web was conceived for physicists; today we use it all
 - Grid computing is being developed to process LHC data; “tomorrow” it will be available to all of us (and we will consider it perfectly natural...
- HEP and nuclear physics are decades ahead in thinking OA:
 - OA peer-reviewed journals before OA became a concept:
 - *Journal of High Energy Physics* (1997) • *Physical Review Special Topics Accelerators and Beams* (1998) • *New Journal of Physics* (1998)
- Why not take advantage of this unique experience to test new publishing models?



Strong author drive for OA publishing

*"We, the * Collaboration, strongly encourage the usage of electronic publishing methods for * publications and support the principles of Open Access Publishing, which includes granting free access of our * publications to all. Furthermore, we encourage all * members to publish papers in easily accessible journals, following the principles of the Open Access Paradigm."*

5400 scientists
building the largest
scientific instruments ever

 *

ATLAS; approved on 23rd February 2007
CMS; approved on 2nd March 2007
ALICE; approved on 9th March 2007
LHCb; approved on 12th March 2007

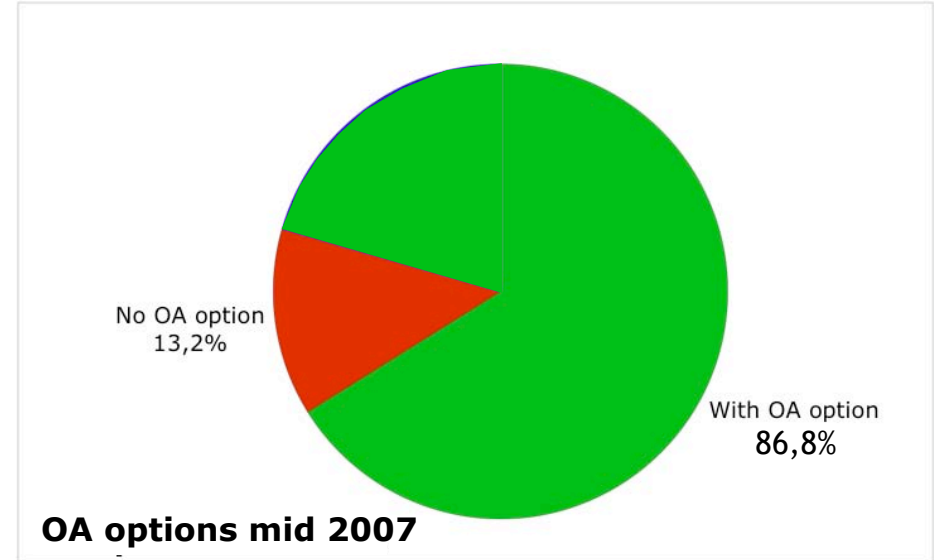
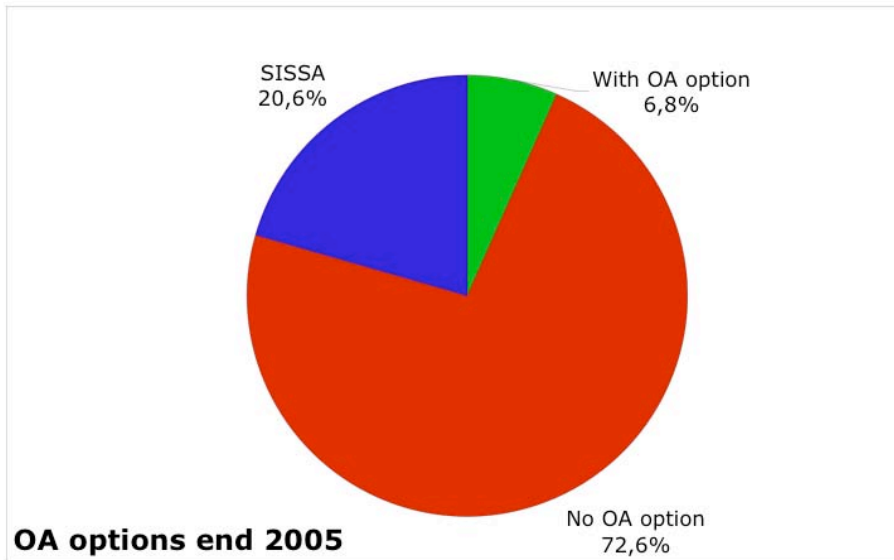
The **SCOAP**³ model Sponsoring Consortium for Open Access Publishing in Particle Physics

Converting to OA while
preserving the prestige and
ensuring the future

Expansion of OA offers from 2005 to 2007

Published articles by journal OA policy:

had authors wanted, could their articles be published OA?



5015 articles submitted to hep-ex, hep-ph, hep-lat and hep-th in 2005 and subsequently published in peer-reviewed journals

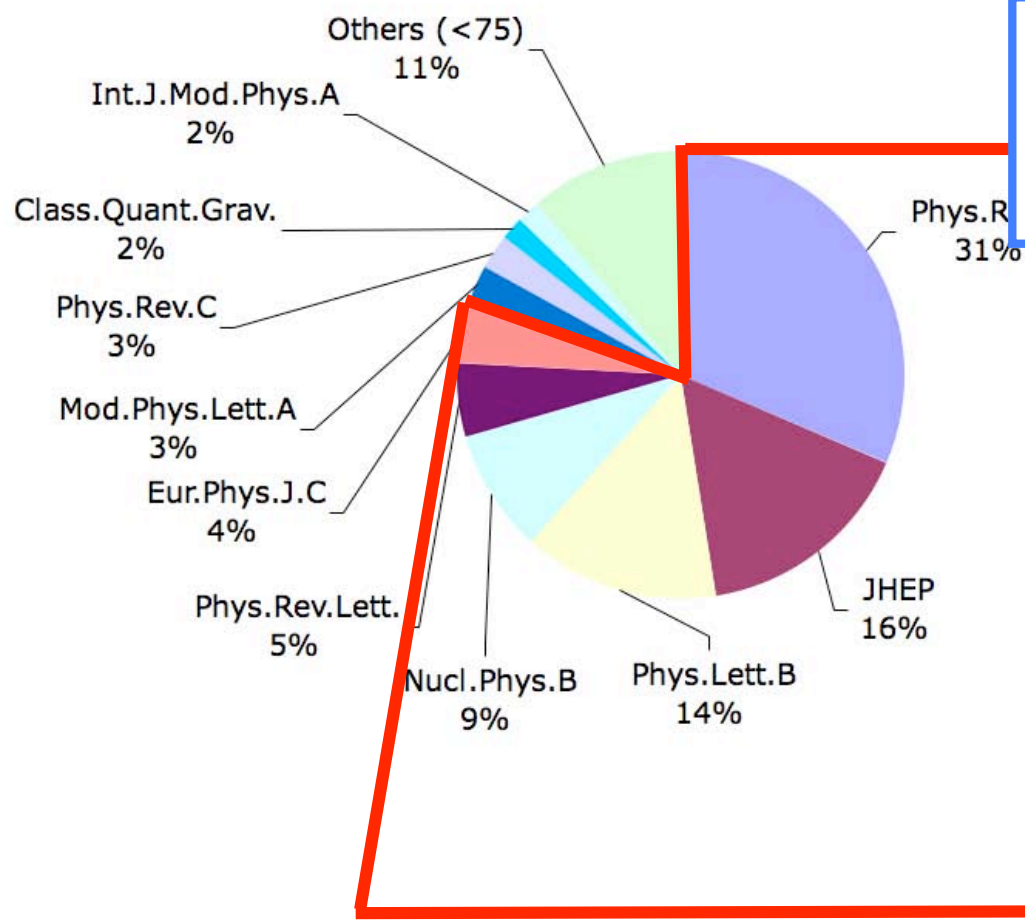
- These articles were NOT OA. Had funding mechanism been in place, they would have been.
- Publishers expand their OA options as a consequence of the debate on OA within the HEP community.

Towards Open Access journals

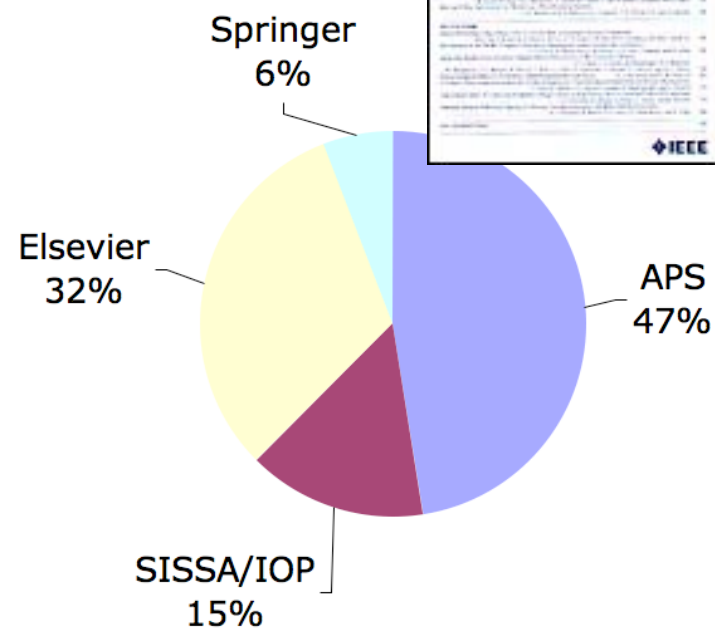
- Six journals cover 80% of central HEP literature
- Aim to convert the five core titles entirely to OA
 - Carry a majority of HEP content, 10%-30% Nuclear Physics and Astroparticle Physics
 - Reduce prices of “packages” accordingly
- Aim to convert HEP part of one “broadband” journal
 - 10% HEP (including Nuclear and Astroparticle Physics)
 - Reduce subscription price accordingly
- SCOAP³ is not limited to this initial set of journals but open to all high-quality HEP journals! The results of the tendering process in preparation will show

Potential initial partners of SCOAP³

Journals where HEP researchers mostly publish today



IEEE will indeed be a welcomed partner in the field of HEP instrumentation



Guesstimating the budget envelope

- *Physical Review D* (APS) operates with **2.7M€/year** (31% of arXiv:hep)
- *Journal of High Energy Physics* (SISSA/IOP) needs **~1M€/year** (19% of arXiv:hep)

HEP Open Access price tag: 10M€/year

- Learned societies quote a price per published article of **~1500€**
- 6-8 leading journals publish 5000-7000 articles a year

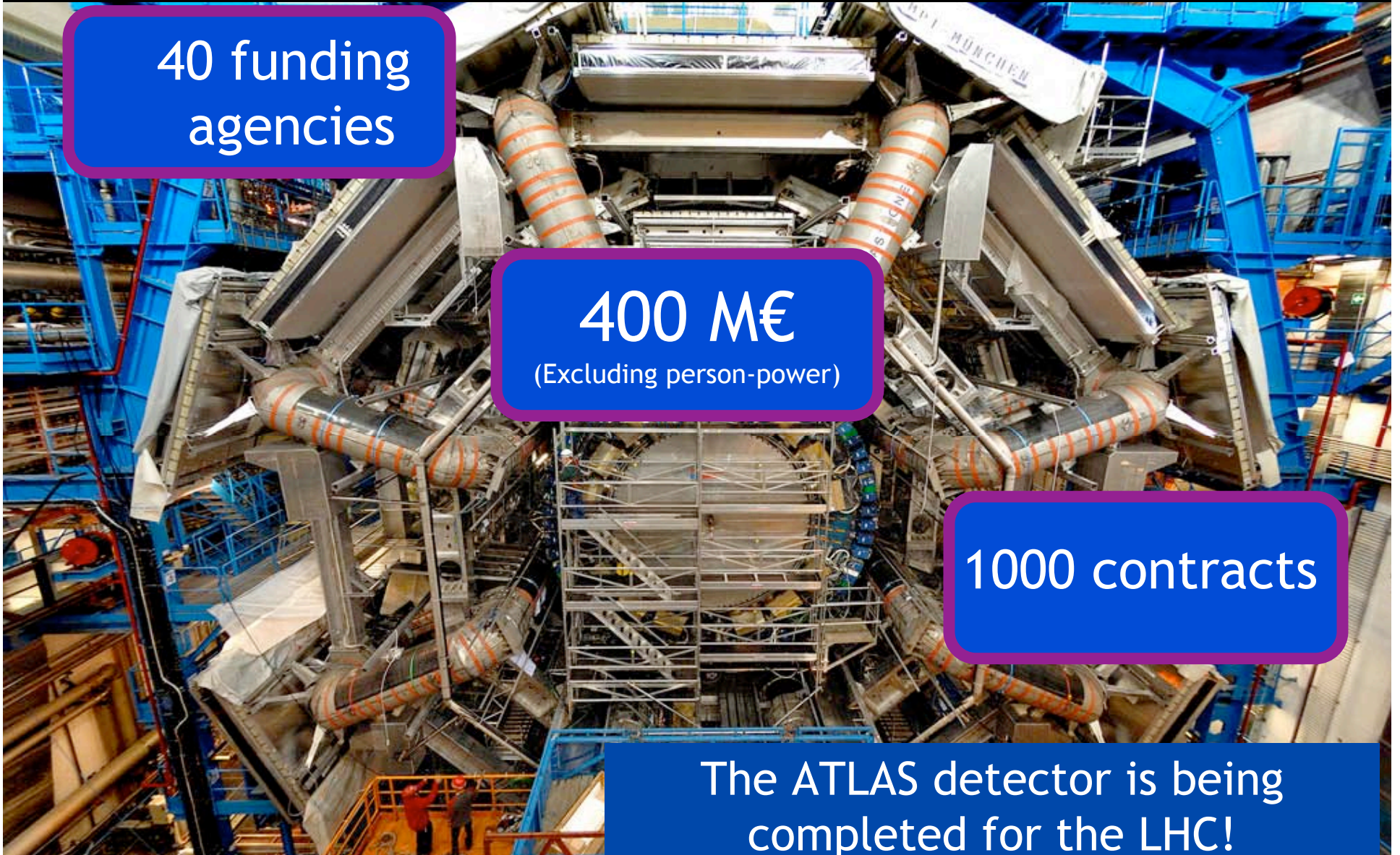
How to put it together?

40 funding agencies

400 M€
(Excluding person-power)

1000 contracts

The ATLAS detector is being completed for the LHC!



SCOAP³ - HEP collaborative experience

O(50) funding
bodies

10 M€

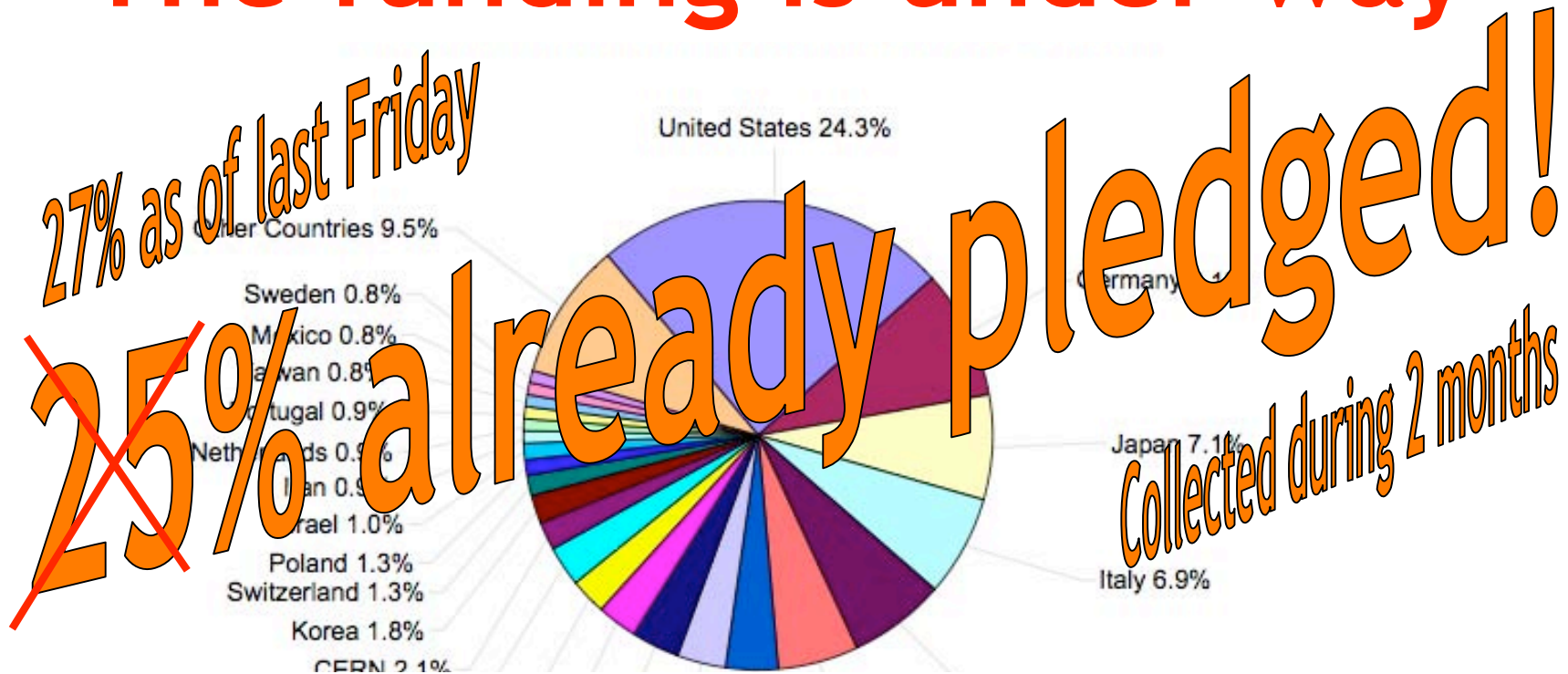
O(10) contracts
with publishers

Establish OA publishing by using the blueprint used
to finance and build the largest experiments ever!

SCOAP³ financing

- SCOAP³ exact yearly cost to be known after a tender is sent to publishers; to be repeated regularly
- SCOAP³ financing to be distributed yearly according to a “fair-share” model based on the distribution of HEP articles per country, accounting for co-authorship
- Make an allowance for developing countries that cannot be expected to contribute to the scheme

The funding is under way



Germany (MPG+Helmholtz+DFG), **France** (CNRS), **Greece** (University Alliance), **CERN**, **Italy** (INFN), and **Cuba** (IDICT) have already joined.

Canada, Poland, Portugal, Norway and Sweden are supposed to sign very soon; intense discussions all over “the rest of the pie”, in Europe, Asia and America.

Next steps

(Formal proposal published in April 2007, pledging started in July)

- Identify country-by-country schemes to re-direct journal subscriptions to SCOAP³
- -> December. Solicit and collect expressions of interest of potential funding partners
- Once funding partners commit a sizeable fraction of budget send a tender to publishers and
 - determine final budget
 - enlist remaining partners
- Formal agreement to establish SCOAP³

Have SCOAP³ operational to accommodate the first LHC results in 2008!

An invitation to IEEE

SCOAP³ will be a controlled experiment with sustainable funding on a 3 years sliding basis

We ask:

- Continue quality control/peer review
- Make the published material available to libraries and other web services

SCOAP³ will ensure the recovery of your costs

Accelerator physics made it already

A complete Open Access Publishing solution

- Reports, preprints available through institutional repositories
Financed via libraries, e.g. the CERN Document Server
- Conferences published through JACoW (supported by IEEE)
Financed via conference budgets, e.g. EPAC
- Peer-reviewed articles published in PRST-AB and
(very soon) Particle Accelerators (1970-2000)
Financed via special sponsorship

SCOAP³ will hopefully attract the “missing piece”:
IEEE TNS

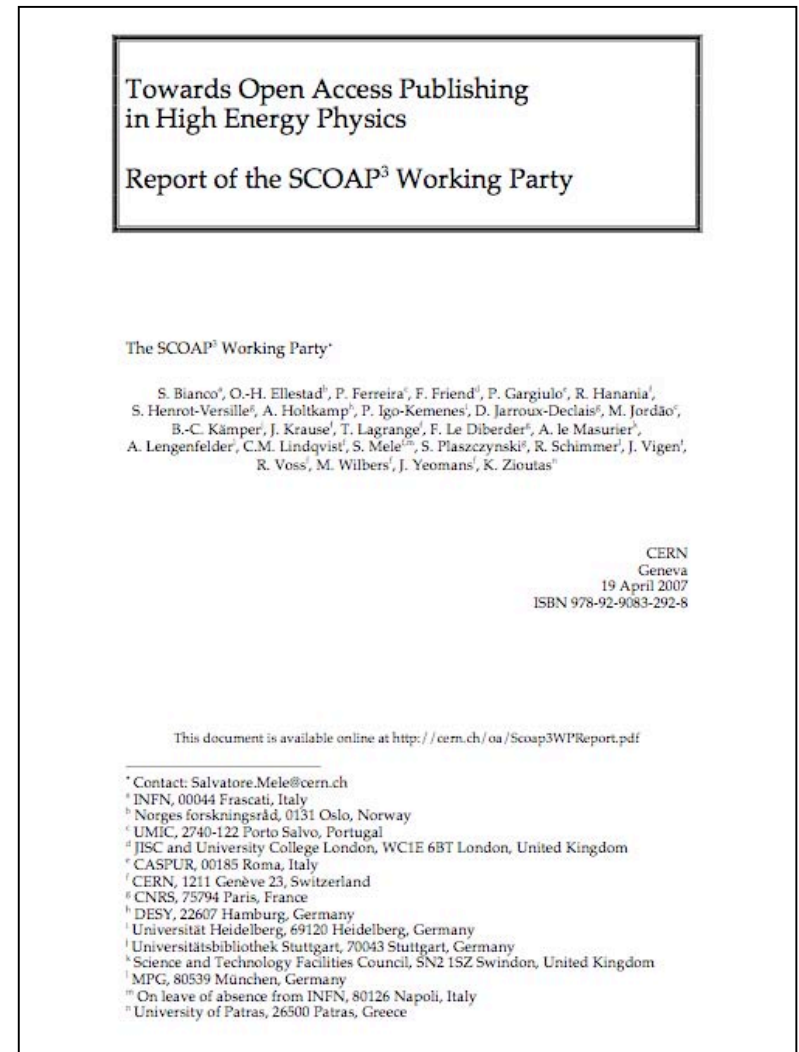


Additional material

For detailed information and updates,
please consult
<http://www.scoap3.org>

Towards the SCOAP³ consortium

- Tripartite task force of HEP funding agencies, publishers and authors indicated sponsoring as a way to achieve Open Access publishing in HEP
- European HEP funding agencies, library consortia and the research community charged a Working Party to propose a blueprint for a sponsoring consortium



<http://cern.ch/oa/Scoap3WPReport.pdf>

SCOAP³ in one line

A consortium sponsors HEP publications and makes them OA by re-directing subscription money.

Today: (funding bodies through) libraries buy journal subscriptions to support the peer-review service and to allow their readers to access articles.

Tomorrow: funding bodies and libraries contribute to the SCOAP³ consortium, which pays for the peer-review service. Articles are free to read for everyone.

**A mix of sponsoring and institutional membership,
on a world-wide scale**

Pillars of the SCOAP³ model (I)

What ?

- Offer online journals free to read for anybody, anywhere, anytime. Publishers will receive financial compensation by SCOAP³ for quality-assurance service
- Preserve high-quality peer-review process
- Preserve choice and academic freedom for authors
- Generate medium- and long-term savings for libraries and funding agencies by linking price with quality
- Publishers are invited to continue to meet demand for additional *premium* products to interested libraries and/or authors (paper journals, reprints, colour pages, ...)

Pillars of the SCOAP³ model (II)

Who ?

- Federation of HEP funding agencies and library consortia worldwide
- Publishers interested in the transition of their journals to OA
 - Most publishers of high-quality HEP journals are expected to be ready to enter negotiations provided long-term funding is available for SCOAP³
- Achieve OA in a way financially transparent for authors, who have to be nonetheless proactive in their choices of journals

Pillars of the SCOAP³ model (III)

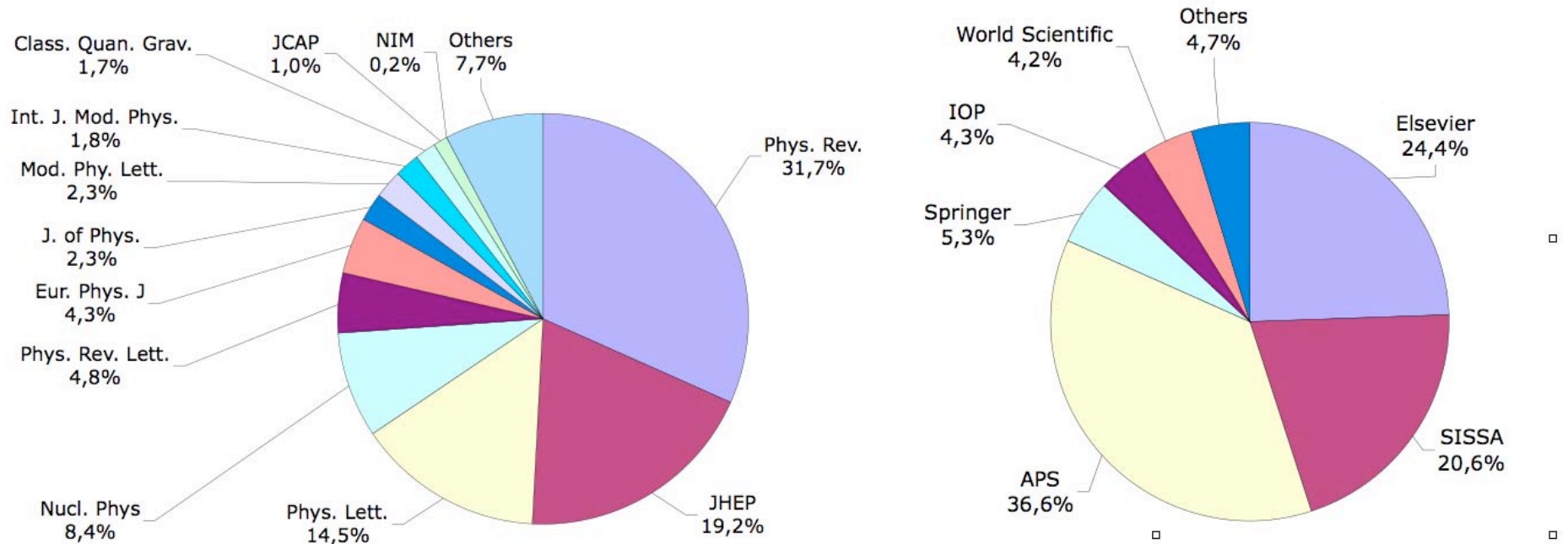
How ?

- Assist publishers to convert existing high-quality peer-reviewed journals to Open Access by re-direct money currently used for subscriptions
- Do not ask individual authors/groups to directly pay to publish their articles Open Access
- No “paying twice” for Open Access and subscriptions
- Ensure that converted journals are removed from packages and prices reduced accordingly
- Ensure long-term archiving through libraries

The HEP publishing landscape

S.Mele *et al.* JHEP 12(2006)S01 arXiv:cs.DL/0611130

5016 articles submitted to arXiv:hep in 2005 and published in peer-reviewed journals

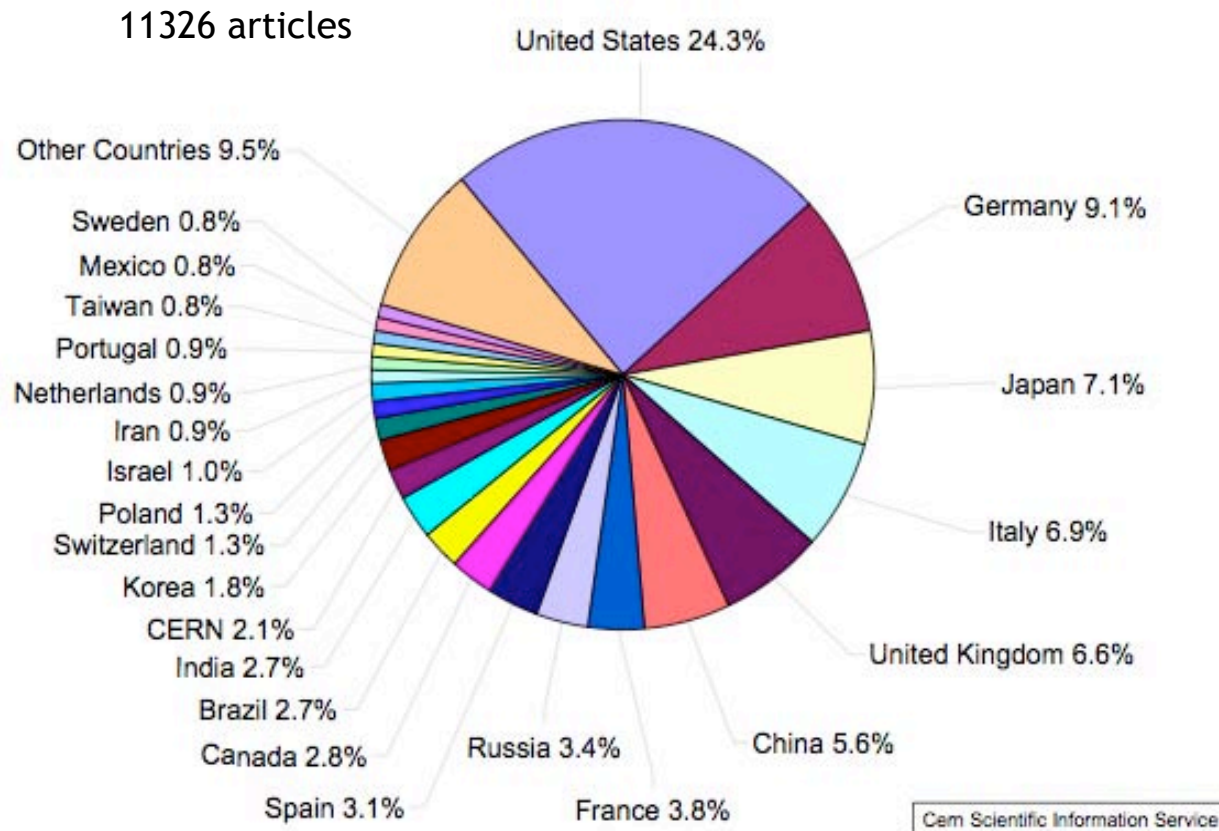


90% of articles are in theory and by less than 3 authors
83% of articles published in 6 leading journals
87% of articles published by four publishers

A study of HEP authorship in leading journals

J.Krause,C.M.Lindqvist,S.Mele CERN-OPEN-2007-014

Distribution of HEP articles by country, average 2005-2006



All HEP “core” journals and HEP fraction of broadband journals.
Co-authorship is taken into account on a *pro-rata* basis
by assigning articles to countries according to their number of authors.

SCOAP³ in a nutshell

- Establish Open Access in HEP publishing in a transparent way for authors
- Convert existing high-quality peer-reviewed journals to Open Access, in a sustainable way
- Operate along the blueprint of large scientific collaborations
- Price tag of 10M€/year to be shared according to the distribution of HEP articles per country.
- The model has high potential but is only viable if every country contributing to HEP is on board!
- SCOAP³ model could be rapidly generalized to related fields: Nuclear and Astroparticle Physics

Challenges for a modern e-infrastructure



New technology for
primitive needs

- Preprints stay main HEP communication channel, *just* submission and discovery have evolved
- Primitive text-mining
- What about conference slides ?
- What about searching for tables and plots ?
- What about aggregating all instances of a result (slides, preprint, conference record, article and even the data)?