Open Access in High-Energy Physics and the SCOAP3 project

(Publishing in HEP) Open Access tradition Open Access advantages Open Access publishing - SCOAP3

Salvatore Mele CERN European Organization for Nuclear Research

scoap3.org

CERN: European Organization for Nuclear Research (since 1954)

- World leading HEP laboratory, Geneva (CH)
- 2500 staff (mostly engineers, administrators/services)
 10000 users (physicists from 580 institutes in 85 countries)
 3 Nobel prizes (Accelerators, Detectors, Discoveries)
 Invented the web of the set of the s
- Operates the 27-km (6bn€) LHC accelerator, "the big-bang machine"
- Top management committed to Open Access
- Runs a 1-million objects Digital Library

CERN Convention (1953): *ante-litteram* Open Access manifesto "... the results of its experimental and theoretical work shall be published or otherwise made generally available"

~15'000 High Energy Physics (HEP) scientists smash stuff at the speed of light to produce new stuff



~15'000 HEP theorists scratch their heads to make sense of all that stuff and then some more



...and it works!



LHC re-discovering known particles for starters. First needles in the haystack: one in a million.

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The HEP publishing landscape



- •5000-7000 articles/year, according to HEP definition
- •90% are in theory
- •80% published in 6 journals by 4 publishers
- •62% by not-for-profit (nor-for-loss) publishers

U.S. and European HEP journals

Krause et al. CERN-OPEN-2007-014



Study of 11326 HEP articles published in 2005-2006 in PRD, JHEP, PLB, NPB, EPJC, PRL and NIMA



97% of HEP journals' content is in arXiv





Krause et al. CERN-OPEN-2007-014





90% of articles... ...are in theory ...have 3 authors!



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The "preprint culture"

L.Goldschmidt-Clermont, 1965, http://eprints.rclis.org/archive/00000445/02/communication_patterns.pdf

Scientific journals of '60s too slow for HEP Mass-mail preprints to institutes worldwide *Ante litteram* (institute-pays) Open Access Leading libraries "serve" preprints "Our ADS": SPIRES (Stanford) 1st U.S. WWW!



arXiv.org the archetypal repository

http://vmsstreamer1.fnal.gov/VMS_Site_03/Lectures/Colloquium/presentations/090506Ginsparg.pdf

- P. Ginsparg, LANL, 1991. Now Cornell Library
- E-mail based, then immediately on the web
- No mandate, no debate, author-driven
- 1/2 Million preprints. HEP, Astro and growing





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Open Access advantages in HEP

Visibility Acceleration Impact

Open Access advantages in HEP

Visibility Acceleration Impact

Where do HEP scientists look for info?

Gentil-Beccot et al. arxiv:0804.2701

- Survey of 2'000+ scientists (10% of community)
- OA tools answer scientists' information needs
- Google as proxy of arXiv, SPIRES, publishers



Open Access advantages in HEP

Visibility Acceleration Impact

Ten years in the life of a HEP article

- SPIRES counts: citations to/from preprints/articles
- Citation peaks at publications
- Scientific discourse proceeds on discipline repository

arxiv:0906.5418 Gentil-Beccot, Mele, Brooks



Open Access advantages in HEP

Visibility Acceleration Impact

Citation augmentation

- Discipline repository yields immense avantage
 - Five times more citations for articles in arXiv
 - 20% of 2-year citations occur before publication



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Open Access publishing in HEP

A conundrum Experiments SCOAP3

Open Access publishing in HEP

A conundrum Experiments SCOAP3

97% of HEP journals' content is in arXiv





Do HEP scientists read journals ?

Gentil-Beccot et al. arxiv:0906.5418





HEP and its 6-8 journals: a conundrum

- Scientists do not read journals, they read arXiv
- Journals are for peer-review and officialdom
- Strong request for OA from scientists
- Libraries' subscriptions implicitly support the system rather than buying access



Open Access publishing in HEP

A conundrum Experiments SCOAP3

Open Access experiments in HEP (and percentage of HEP literature)

 Springer Open Choice
 Image: Image

Model in its infancy in HEP. Author FAQ: why pay something you can get for free elsewhere (the library pays subscriptions)

Journal of High Energy Physics	Journal of Instrumentation			
About JHEP for Readers for Authors for Referees for Editors	About JINST for Readers for Authors for Referees for Editors			
info 🕖	info			

Institutional membership: for a (small) fee in addition to subscriptions, all articles with at least one author from the institution are OA

- Leading laboratories and the entire France trying this scheme.
- Authors like OA without financial barriers in high-IF journals

Community support for OA publishing

- LHC scientists (8000 scientists from 54 countries): "We strongly [...] support the principles of Open Access Publishing, which includes granting free access of our publications to all. Furthermore, we encourage all our members to publish papers in easily accessible journals, following the principles of the Open Access Paradigm."
- Seminal articles on LHC construction published OA Journal of Instrumentation
 - 7 articles/1600 pages/8000 authors.
 - Largest single OA operation so far?
 - 60'000+ downloads from journal site in first two months!



Recent Open Access developments in HEP

Waiting for SCOAP3 publishers offer free OA:

- Springer: Eur. Phys. Jour. C
 - Experimental HEP articles and all HEP letters
- EPS: Europhys. Lett.
 - All HEP articles
- Elsevier: Phys. Lett. B and Nucl. Phys. B
 - HEP articles from the LHC
- APS: Phys. Rev. Lett. and Phys. Rev. D
 - LHC articles in 2010



First LHC results: partnerships with publishers! 1. Open Access with no author fees 2. (C) CERN for the benefit of the collaborations 3. CC-BY-(NC)

Eur. Phys. J. C (2010) 65: 111-125 DOI 10.1140/epic/s10052-009-1227-4

Regular Article - Experimental Physics

PHYSICAL JOURNAL C

THE EUROPEAN

Springe

First proton-proton collisions at the LHC as observed with the ALICE detector: measurement of the charged-particle pseudorapidity density at $\sqrt{s} = 900 \text{ GeV}$

The ALICE Collaboration

K. Aamodt⁷⁸, N. Abel⁶¹, U. Abeysekara¹⁰, A. Abrahantes Quintana⁴², A. Acero⁵³, D. Adamová⁵⁶, M.M. Aggarwal²⁵, G. Aglieri Rinella⁴⁰, A.G. Agocs¹⁸, S. Aguilar Salazar⁶⁶, Z. Ahammed⁵⁵, A. Ahmad², N. Ahmad², S.U. Ahm²⁰, R. Akimoto¹⁰⁰, A. Akindinov⁶⁸, D. Aleksandrov⁷⁰, B. Alessandro¹⁰², R. Alfaro Molina⁶⁶, A. Alici¹³, E. Almaráz Aviña⁶⁶, J. Alme⁸, T. Alt^{43,e}, V. Altini⁵, S. Altinpinar³², C. Andrei¹⁷, A. Andronic³², G. Anelli⁴⁶ V. Angelov^{43,c}, C. Anson²⁷, T. Antičić¹¹³, F. Antinori^{40,d}, S. Antinori¹³, K. Antipin³⁷, D. Antończyk³⁷, P. Antonioli¹⁴, A. Anzo⁶⁶, L. Aphecetche⁷³, H. Appelshäuser³⁷, S. Arcelli¹³, R. Arceo⁶⁶, A. Arend³⁷, N. Armesto⁹², R. Arnaldi¹⁶ 1. Aronsson⁷⁴, I.C. Arsene³⁵e, A. Asryan⁸⁸, A. Augustinus⁴⁰, R. Averbeck⁷², T.C. Awes⁴⁶, J. Äystö⁷⁶, M.D. Azmi², S. Bablok⁸, M. Bach⁴⁶, A. Badalà³⁴, Y.W. Back^{80,b}, S. Bagnasco¹⁰², R. Bailniche^{32,4}, R. Bala¹⁰¹, A. Baldisseri⁸⁹ A. Baldit²⁶, J. Bán⁵⁸, R. Barbera²³, G.G. Barnaföldi¹⁸, L. Barnby¹², V. Barret²⁶, J. Bartke²⁹, F. Barile⁵, M. Basile¹³ V. Basmanov⁹⁴, N. Bastid²⁶, B. Bathen⁷², G. Batigne⁷³, B. Batyunya³⁵, C. Baumann^{72,f}, I.G. Bearden² B. Becker^{20,g}, I. Belikov⁹⁹, R. Bellwied³⁴, E. Belmont-Moreno⁶⁶, A. Belogianni⁴, L. Benhabib⁷³, S. Beole I. Berceanu¹⁷, A. Bercuci^{32,h}, E. Berdermann³², Y. Berdnikov³⁹, L. Betev⁴⁰, A. Bhasin⁴⁸, A.K. Bhati²⁵, L. Bianchi¹⁰¹, N. Bianchi³⁸, C. Bianchin⁷⁹, J. Bielčík⁸¹, J. Bielčíková⁸⁶, A. Bilandzic³, L. Bimbot⁷⁷, E. Biolcati¹⁰¹, A. Blanc²⁶ F. Blanco^{23,1}, F. Blanco⁶³, D. Blau⁷⁰, C. Blume³⁷, M. Boccioli⁴⁰, N. Bock²⁷, A. Bøedanov⁶⁹, H. Bøegild²⁸ M. Bogolyubsky⁸³, J. Bohm⁹⁶, L. Boldizsár¹⁸, M. Bombara^{12,j}, C. Bombonati^{79,k}, M. Bondila⁴⁹, H. Borel⁸⁵ V. Borshchov⁵¹, C. Bortolin⁷⁹, S. Bose⁵⁴, L. Bosisio¹⁰³, F. Bossá¹⁰¹, M. Botje², S. Böttge⁴³, G. Bourdaud⁷³, B. Boyer⁷⁷, M. Braun⁵⁶, P. Braun-Munzinger^{32,33}c, L. Bravina⁷⁸, M. Bregant^{103,1}, T. Breitner⁴³, G. Bruckner⁴⁰, R. Brun⁴⁰, E. Bruna⁷⁴, G.E. Bruno⁵, D. Budnikov⁹⁴, H. Buesching³⁷, K. Bugaev⁵², P. Buncic⁴⁰, O. Busch⁴⁴, Z. Buthelezi22, D. Caffarri79, X. Cai111, H. Caines74, E. Camacho64, P. Camerini103, M. Campbell40 V. Canoa Roman⁴⁰, G.P. Capitani³⁸, G. Cara Romeo¹⁴, F. Carena⁴⁰, W. Carena⁴⁰, F. Carminati⁴ A. Casanova Díaz³⁸, M. Caselle⁴⁰, J. Castillo Castellanos⁸⁹, J.F. Castillo Hernandez³², V. Catanescu¹ E. Cattaruzza¹⁰³, C. Cavicchioli⁴⁰, P. Cerello¹⁰², V. Chambert⁷⁷, B. Chang⁹⁶, S. Chapeland⁴⁰, A. Charpy⁷⁷, J.L. Charvet⁸⁹, S. Chattopadhyay⁵⁴, S. Chattopadhyay⁵⁵, M. Cherney³⁰, C. Cheshkov⁴⁰, B. Cheynis⁶² E. Chiavassa¹⁰¹, V. Chibante Barroso⁴⁰, D.D. Chinellato²¹, P. Chochula⁴⁰, K. Choi⁸⁵, M. Chojnacki¹ P. Christakoglou¹⁰⁶, C.H. Christensen²⁴, P. Christiansen⁶¹, T. Chujo¹⁰⁵, F. Chuman⁴⁵, C. Cicalo²⁰, L. Cifarelli¹³, F. Cindolo¹⁴, J. Cleymans²², O. Cobanoglu¹⁰¹, J.-P. Coffin⁵⁹, S. Coll¹⁰², A. Colla⁴⁰, G. Conesa Balbastre¹⁸, Z. Conesa del Valle^{73,m}, E.S. Conner¹¹⁰, P. Constantin⁴⁴, G. Contin^{103,4}, J.G. Contreras⁶⁴, Y. Corrales Morales¹⁰¹ T.M. Cormier³⁴, P. Cortese¹, I. Cortés Maldonado⁸⁴, M.R. Cosentino²¹, F. Costa⁴⁰, M.E. Cotallo⁵³, E. Crescio⁵⁴ P. Crochet²⁶, E. Cuautle⁶⁵, L. Cunqueiro¹⁸, J. Cussonneau⁷³, A. Dainese^{59,d}, H.H. Dalsgaard²⁸, A. Danu¹⁶, I. Das⁵⁴, S. Das⁵⁴, A. Dash¹¹, S. Dash¹¹, G.O.V. de Barros⁹³, A. De Caro⁹⁰, G. de Cataldo^{40,0}, J. de Cuveland⁴ A. De Falco¹⁹, M. de Gaspari⁴⁴, J. de Groot⁴⁰, D. De Gruttola⁵⁰, A.P. de Haas¹⁰⁶, N. De Marco¹⁰², R. de Rooij¹⁰⁶, S. De Pasquale⁹⁰, G. de Vaux²², H. Delagrange⁷³, G. Dellacasa¹, A. Deloff³⁰⁷, V. Demanov⁹⁴, E. Dénes¹¹ A. Dennman⁹³, G. D'Erasmo⁵, D. Derkach⁹⁶, A. Devaux²⁵, D. Di Bari⁵, C. Di Gielio^{5,k}, S. Di Liberto⁸ A. Dieppinan , G. D. Irasmis, I.D. Derasta, J. Diaz⁶⁵, R. Diaz⁶⁵, T. Dietel⁷², H. Ding¹¹¹, R. Divä⁶⁰, Ø. Djuvsland⁸, G. do Amaral Valdiviesso²¹, V. Dobretsov⁷⁰, A. Dobrin⁶¹, T. Dobrowolski¹⁰⁰, B. Dönigus¹², I. Domínguez⁴⁵, D.M.M. Don⁴⁶, O. Dordic⁷⁸, A.K. Dubev⁵⁵, J. Dubuisson⁴⁰, L. Ducroux⁴⁰, P. Dupieux²⁶, A.K. Dutta Majumdar⁵⁵ M.R. Dutta Majumdar⁵⁵, D. Elia⁶, D. Emschermann^{44,0}, A. Enokizono⁷⁶, B. Espagnon⁷⁷, M. Estienne⁷³, D. Evans¹², S. Evrard⁴⁰, G. Eyyubova⁷⁸, C.W. Fabjan^{40,p}, D. Fabris⁷⁹, J. Faivre⁴¹, D. Falchieri¹³, A. Fantoni³⁸, M. Fasel³², R. Fearick²², A. Fedunov³⁵, D. Fehlker⁸, V. Fekete¹⁵, D. Felea¹⁶, B. Fenton-Olsen^{28,q}, G. Feofilov⁹ A, Fernández Téllez⁸⁴, E.G. Ferreiro⁹², A. Ferretti¹⁰¹, R. Ferretti^{1,7}, M.A.S. Figueredo⁹³, S. Filchagin⁹⁴, R. Fini⁶, F.M. Fionda⁵, E.M. Fiore⁵, M. Floris^{19,k}, Z. Fodor¹⁸, S. Foertsch²², P. Foka³², S. Fokin⁷⁰, F. Formenti⁴⁰,

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Transverse-momentum and pseudorapidity distributions of charged hadrons in pp collisions at $\sqrt{s} = 0.9$ and 2.36 TeV

CMS Collaboration

ABSTRACT: Measurements of inclusive charged-hadron transverse-momentum and pseudo rapidity distributions are presented for proton-proton collisions at $\sqrt{s} = 0.9$ and 2.36 TeV. The data were collected with the CMS detector during the LHC commissioning in December 2009. For non-single-diffractive interactions, the average charged-hadron transverse momentum is measured to be 0.46 ± 0.01 (stat.) ± 0.01 (syst.) GeV/c at 0.9 TeV and 0.50 ± 0.01 (stat.) \pm 0.01 (syst.) GeV/c at 2.36 TeV, for pseudorapidities between -2.4and +2.4. At these energies, the measured pseudorapidity densities in the central region, $dN_{ch}/d\eta|_{|u| < 0.5}$, are 3.48 ± 0.02 (stat.) ± 0.13 (syst.) and 4.47 ± 0.04 (stat.) ± 0.16 (syst.), respectively. The results at 0.9 TeV are in agreement with previous measurements and confirm the expectation of near equal hadron production in pp and pp collisions. The results at 2.36 TeV represent the highest-energy measurements at a particle collider to date.

KEYWORDS: Hadron-Hadron Scattering

ARXIV EPRINT: 1002.0621

OPEN ACCESS, COPYRIGHT CERN. FOR THE BENEFIT OF THE CMS COLLABORATION dol:10.1007/JHEP02(2010)041



Charged-particle multiplicities in pp interactions at $\sqrt{s} = 900$ GeV measured with the ATLAS detector at the LHC *,**

ATLAS Collaboration

JHEP

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ARTICLE INFO	A B S T R A C T
Article Alstory: Received 16 March 2010 Received in revised form 22 March 2010 Accepted 20 March 20 March 20 March 20 March 20 March 2010 Accepted 20 March 2010	The first measurements from proton-proton collisions recorded with the ATLAS detector at the LI are presented. Data were collected in December 2009 using a minimum-bias trigger during collisis at a centre-drass energy of 900 eV. The charged-particle multiplication, its dependence an transver momentum and productionality, and the reliationship between mean transverse momentum and charge means the second secon
Reywords: Charged-particle Multiplicities 900 GeV ATLAS	collisions and to results from other experiments at the same centre-of-mass energy. The charged-partic multiplicity per event and unit of preudorapidity at $\eta = 0$ is measured to be 1.333 ± 0.003 (tat.) 0.0400 (syst.), which is 5–15% higher than the Monte Carlo models predict. 2010 Published by Elsevier B
LHC Minimum bias	

1. Introduction

usive charged-particle distributions have been measured in pp and pp collisions at a range of different centre-of-mass energies [1-13 Many of these nessurements have been used to constant phenomenological models of oth Anternet interactions and to predict properties at higher centres of mass mergins. Most of the previous charged-particle multiplicity measurements were obtained by selecting data with a double-arm coincidence trigger, thus removing large fractions of diffractive events. The data were then further corrected to remove the remaining single-diffractive component. This selection is referred to as ann-single-diffractive (NS). In some case, designated as inelastic non-diffractive, the residual double-diffractive component was also subtracted. The selection of NSD or inelastic non-diffractive es instant inter-interest, the reason devolver-interecting operations wild discrements of the exercise of the star interest additional exercises of the trigger oscillation of the trigger oscillation of the trigger oscillation is inclusive-tantegy, which uses a single-arm ringer overlapping with the acceptance of the trigger oscillation grounds. Results are presented as inclusiveinelastic distributions, with minimal model-dependence, by requiring one charged particle within the acceptance of the measurement

This letter reports on a measurement of primary charged particles with a monorthm component transverse to the beam direction? p > 500 eVer on in the pseudoacidy range $|\eta| < 2.5$, Frinary charged particles are defined as charged particles with a monorthm in $\tau > 0.3 \times 10^{-10} \text{ s}$ directly produced in pp interactions or from subsequent decays of particles with a shorter lifetime. The distributions of tacks reconstructed in the ATAS metadement detection of the particle set defined in the ATAS metadement and the particle level distributions.

 $1 d^2 N_{ch}$ 1 dN_{ev} $\overline{n_{ev}} \cdot \frac{dn_{ev}}{d\eta}, \quad \overline{n_{ev}} \cdot \frac{dn_{ev}}{2\pi p_T} \cdot \frac{dn_{eT}}{d\eta \, dp_T}, \quad \frac{dn_{ev}}{n_{ev}} \cdot \frac{dn_{ev}}{dn_{ch}} \text{ and } (p_T) \text{ vs. } n_{ch}.$

where N_{ev} is the number of events with at least one charged particle inside the selected kinematic range, N_{Gi} is the total number of charged particles, n_{Gi} is the number of charged particles in an event and (p_T) is the average p_T for a given number of charged particles.

© CERN, for the benefit of the ATLAS Collaboration

Date submitted: 2010-03-16T16-00-52Z all address: atlas.secretariat@cem.ch

¹ The ATLAS deterrises spaces is a classism right-handed co-outliance system, with the nominal collision point at the origin. The anti-clockwise beam direction defines the pointile z-axis, while the positive z-axis is defined as pointing from the collision point to the center of the LHE fing and the positive z-axis is defined as pointing from the collision point to the center of the LHE fing and the positive z-axis is defined as pointing from the collision point to the center of the LHE fing and the positive z-axis is defined as a pointing from the collision point to the center of the LHE fing and the positive z-axis. The auto-collision point to the center of the LHE fing and the positive z-axis. The auto-collision point z-axis is defined as a point z-axis. The collision point to the center of the z-axis. The collision point z-axis. The collision point z-axis. The collision point z-axis is defined as a point z-axis. The collision point

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Elsevier

Springer



Open Access publishing in HEP

A conundrum Experiments SCOAP3

The SCOAP3 model

An international consortium to convert existing (and new) top-quality HEP journals to OA

- •Libraries re-direct subscriptions to SCOAP3
- •SCOAP3 pays centrally for peer-review service
- Price-per-article established by call for tender
- •Articles are (free and libre) Open Access OA and publishing novelties



Publishing novelties of SCOAP3

- Link price and quality through call for tender
- Correlate volume and price through contracts
- Enshrine value added in publishing process
- Experiment in a field at a confluence:
 - OA, repositories, peer-review



OA novelties of SCOAP3

- No additional expenses for OA article fees
 - for anyone: authors, libraries, funders
- Discipline-wide re-direction of subscriptions
- Transparently provide scientists with:
 - OA; academic freedom; quality; prestige



Why libraries like SCOAP3

- Knowing what is paid for, and price control.
- Do more with articles:
 - Host local copies of entire field.
 - Automatic harvest institute's output in repositories.
 - Author's rights. Re-use rights.
- Experiment for later expansion to other fields?



How much will it cost?

No more than we spend today!

- Worldwide budget envelope:
 - Today learned society prices
 - JHEP ~1M€ for 20% of HEP
 - APS ~2000\$/article
 - 5000-7000 articles/year in 6-8 journals
- Total: 10M€/year



SCOAP3 funding

Fair-share: contribute as per peer-review usage United States 24.3% Other Countries 9.5% Germany 9,1% Sweden 0.8% Mexico 0.8% Taiwan 0.8% Portugal 0.9% Japan 7.1% Netherlands 0.9% Iran 0.9% Israel 1.0% Poland 1.3% Italy 6.9% Switzerland 1.3% Korea 1.8% **CERN 2.1%** United Kingdom 6.6% India 2.7% Brazil 2.7% China 5.6% Russia 3.4% Canada 2.8% Spain 3.1% France 3.8% J. Krause et al. CERN-OPEN-2007-014

International consensus

- •Only viable if every country is on board!
- •Go beyond majority and well-wishing
- Success through consensus and unanimity
- •Not a weakness: a strength!
- XXIst century problem-solving strategy



SCOAP3 Partnerships 69% of the SCOAP3 budget envelope pledged by libraries, consortia and funders worldwide Austria Italy **Netherlands** Belgium 6.9M€ Work in progress 30.9% CERN Norway (69%) Czech Rep. Portugal 3.1M€ Pledged

69.1%

Intense conversations with Brazil, Russia, China, India and Japan !

(31%)

Denmark	Romania				
France	Slovakia				
Finland	Sweden				
Germany	Switzerland				
Greece	Spain				
Hungary	JISC (UK)				
Australia	Israel, Turkey				
Canada					
>150 U.S. libraries (>90%)					

SCOAP3 Call for Tender to publishers

- Request price-per-article for peer-review & OA
 - OA conditions
 - Irreversible OA
 - Author rights
 - Push into repositories
 - Financial conditions:
 - Unbundling of journal packages
 - Reduction of subscription prices
 - No double payment



SCOAP3 Outlook

 Reach critical mass (Partnership in Asia and Latin America)
 Engage publishers in a call for tender
 Go/No-Go decision



SCOAP3 Outlook

4. Transfer knowledge?

5000-7000 articles/year
around 6 leading journals
access to literature from community resource
pervasiveness of arXiv

Astro* anyone?



Thank you!

Salvatore.Mele@cern.ch scoap3.org

Additional resources:

R. Heuer, S.M. et al. Innovation in Scholarly Communication: Vision and Projects from High-Energy Physics http://arxiv.org/abs/0805.2739

A.Gentil-Beccot, S.M. et al. Information Resources in High-Energy Physics: Surveying the Present Landscape and Charting the Future Course http://arxiv.org/abs/0804.2701

A.Gentil-Beccot, S.M. et al. Citing and Reading Behaviors in HEP: How a Community Stopped Worrying about Journals and Learned to Love Repositories http://arxiv.org/abs/0906.5418

Additional information

Evolving publication habits



Phases of stability alternated with fast growth/decline

N.B. Only articles which appeared in the six largest HEP journals are considered.



Practicalities and budget envelope

- Five "core" journals: PRD, JHEP, PLB, NPB, EPJC
 - -Carry a majority of HEP content: aim to <u>convert entirely to Open Access</u>
- Two "broadband" journal: PRL, NIM
 - -10%,25% and 50% HEP: conversion to Open Access of this fraction
- Other, lower-volume, high-quality HEP journals -conversion to <u>Open Access of the HEP content</u>

Guesstimating the costs...

- Physical Review D (APS) income ~3.9M\$/year (31% of arXiv:hep)
- Journal of High Energy Physics (SISSA/IOP) income ~1.3M\$/year (19% of arXiv:hep)
- A published PRD article costs APS ~2000\$
- 6-8 journals publish 5000-7000 articles/year
 HEP Open Access price tag: 14M\$/year





The SCOAP3 tender concept - 3

ality and (low) price	Journal	Price	Volume	Contract	Expenditure
	Journal K	2000 \$	1300	2.6 Mln \$	2.6 Mln \$
	Journal A	1500 \$	2000	3.0 Mln \$	5.6 Mln \$
	Journal Z	1800 \$	1000	1.8 Mln \$	7.4 Mln \$
	Journal F	4000 \$	300	1.2 Mln \$	8.6 Mln \$
nb (Journal L	2000 \$	1000	2.0 Mln \$	10.6 Mln \$
by (high	Journal R	1800 \$	1000	1.8 Mln \$	12.4 Mln \$
	Journal Q	3000 \$	200	0.6 Mln \$	13.0 Mln \$
ked	Journal P	800 \$	50	9/100	
Ran	Journal W	5000 \$	100		