Elsevier in High Energy Physics

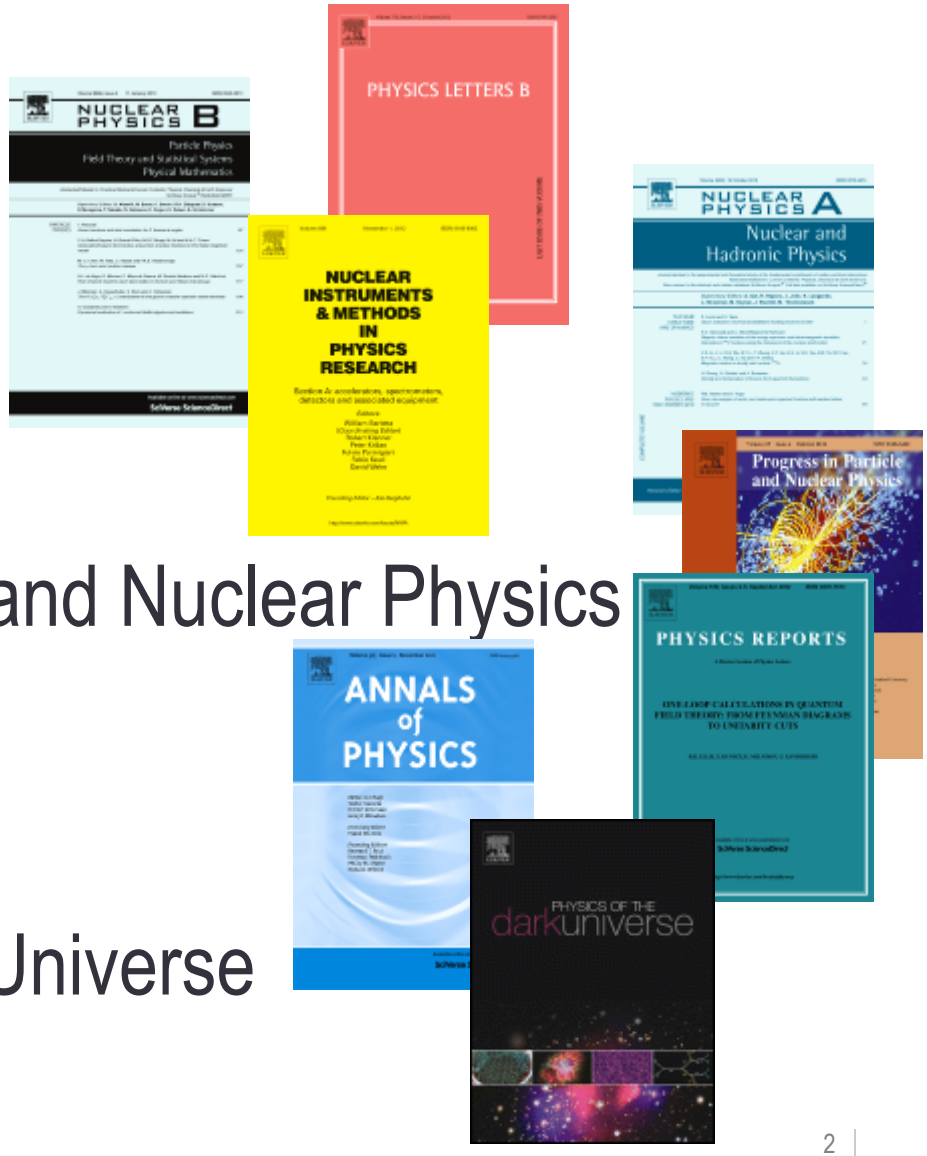
PDG Collaboration Meeting

CERN

Presented by: Eleonora Presani – e.presani@elsevier.com
Date: Saturday, October 06, 2012

Elsevier in High Energy Physics

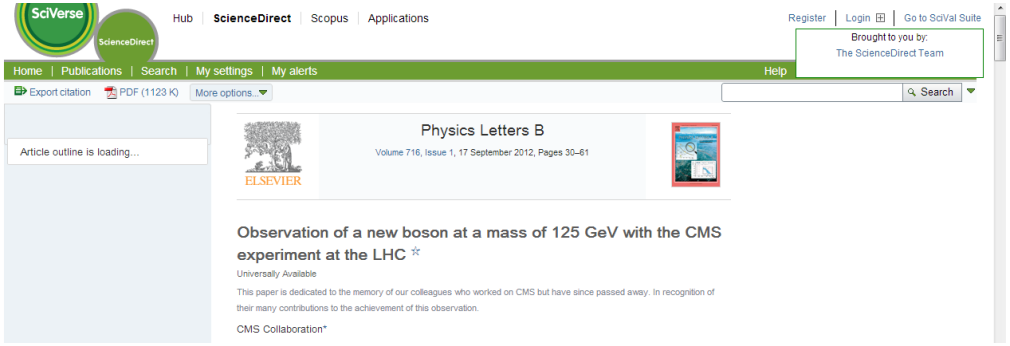
- Physics Letters B
- Nuclear Physics B
- Nuclear Physics A
- NIM A
- Progress in Particle and Nuclear Physics
- Physics Reports
- Annals of Physics
- Physics of the Dark Universe



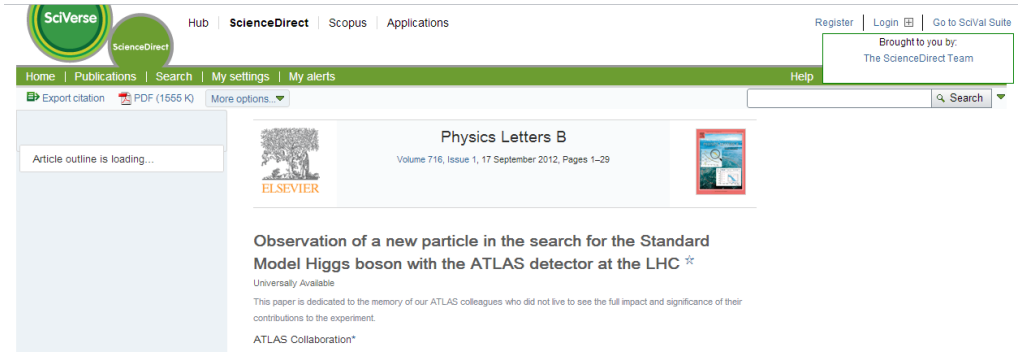
Physics Letters B

- Since 1962 is a reference point for fast publications in high energy physics, until today:
- http://www.sciencedirect.com/science/article/pii/S0370269312008581

LHC results are always

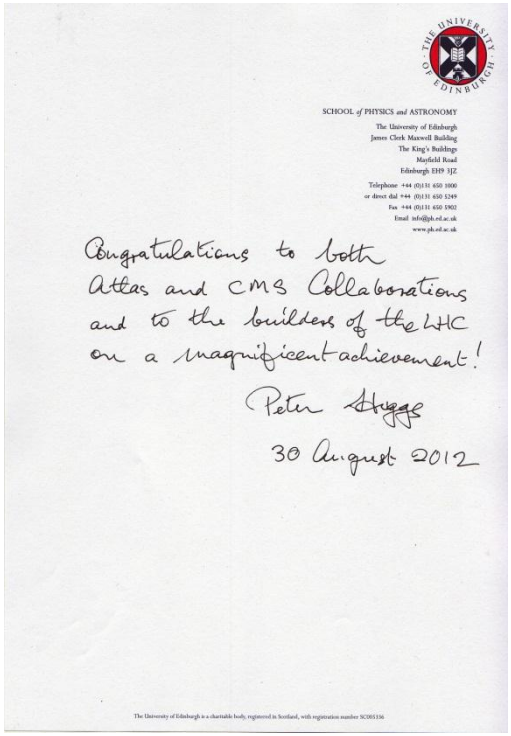


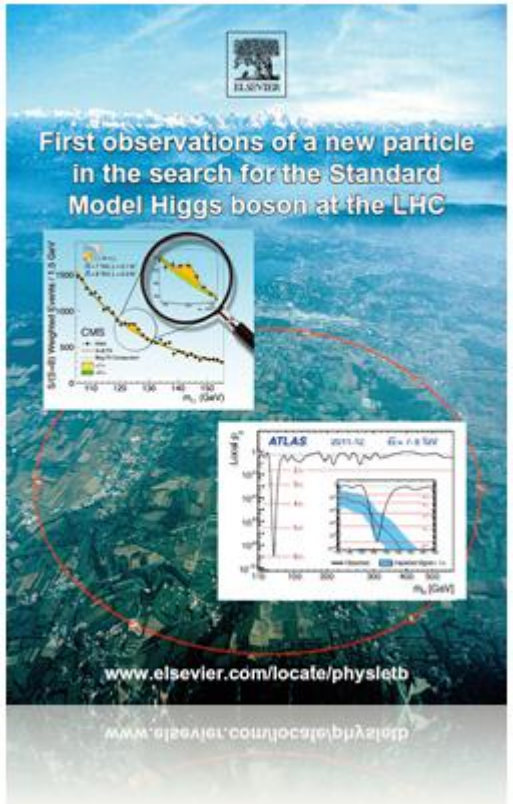
- http://www.sciencedirect.com/science/article/pii/S037026931200857X



Physics Letters B

- Reprint freely available at http://webshop.elsevier.com/campaigns/higgsParticle/





SCOAP3

SCOAP³ – Sponsoring Consortium for Open Access Publishing in Particle Physics

Towards Open Access publishing in High Energy Physics

- CERN project to transform hep publications in OA
- Physics Letters B and Nuclear Physics B to become completely Open Access from 2014
- Elsevier actively involved in the reconciliation process with libraries and funding agencies

Publisher	Journal	SCOAP³ Articles (In 2011)	SCOAP³ Percentage of journal (In 2011)	Article Processing Charge
American Physical Society	Physical Review C	107	9.9%	1900 USD
American Physical Society	Physical Review D	2989	100%	1900 USD
Elsevier	Physics Letters B	1010	100%	1800 USD
Elsevier	Nuclear Physics B	284	100%	2000 USD
Hindawi	Advances in High Energy Physics	28	100%	1000 USD
Institute of Physics Publishing/Chinese Academy of Sciences	Chinese Physics C	16	7.2%	1000 GBP
Institute of Physics Publishing/Deutsche Physikalische Gesellschaft	New Journal of Physics	20	2.7%	1200 GBP
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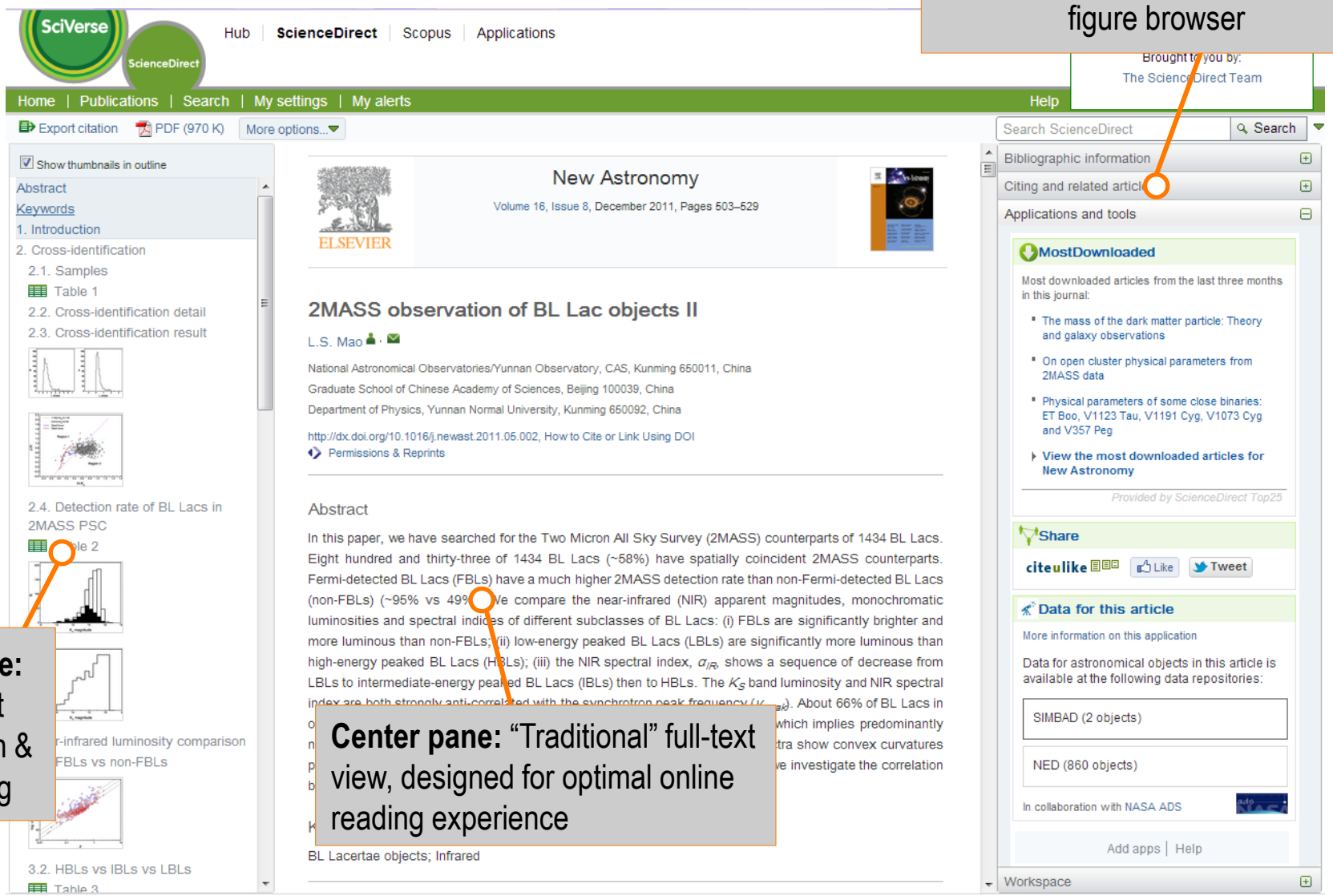
Jagellonian University	Acta Physica Polonica B	23	22.1%	500 EUR
Oxford University Press/Physical Society of Japan	Progress of Theoretical Physics (to become PTEP)	46	36.2%	1000 GBP
Springer/Società Italiana di Fisica	European Physical Journal C	326	100%	1500 EUR
Springer/SISSA	Journal of High Energy Physics	1652	100%	1200 EUR

Article of the future

Right pane: collects additional content and tools. Shown here: figure browser



Left pane: efficient navigation & browsing

Center pane: "Traditional" full-text view, designed for optimal online reading experience

Interactive Content: MATLAB figure

How does it work?

1. Authors using MATLAB save their figures in the MATLAB .FIG format.
2. Authors upload .FIG files as supplementary material through EES (may also be at revision stage)
3. Elsevier turns this into an Interactive Figure and includes this in the online article
4. Readers can better explore research in the context of the article, or download .FIG file

- MATLAB is one of the leading general-purpose software program for mathematical modelling, analysis & visualization
- Elsevier is the first publisher to support interactive viewing of MATLAB files
- Currently live for 5 journals

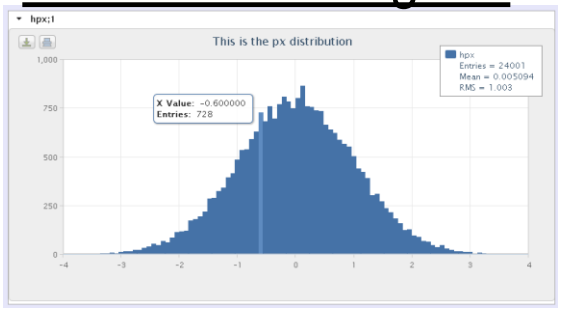
http://www.elsevier.com/matlab

Idea for ROOT viewer

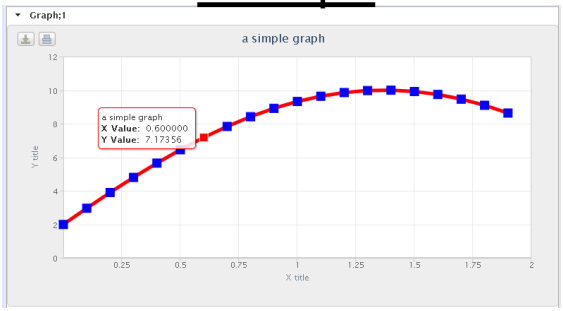
Brainstorming with Bertrand Bellenot

- Browser for ROOT file inventory
- Interactive viewer capabilities for:
  - Histograms
  - TGraphs
- Based on existing JavaScript visualization tools for ROOT, developed by Bertrand Bellenot (http://root.cern.ch/js/)

Interactive histogram



TGraph



Screenshots from existing software, see http://root.cern.ch/js/

DB Linking Option 1: Entity Linking

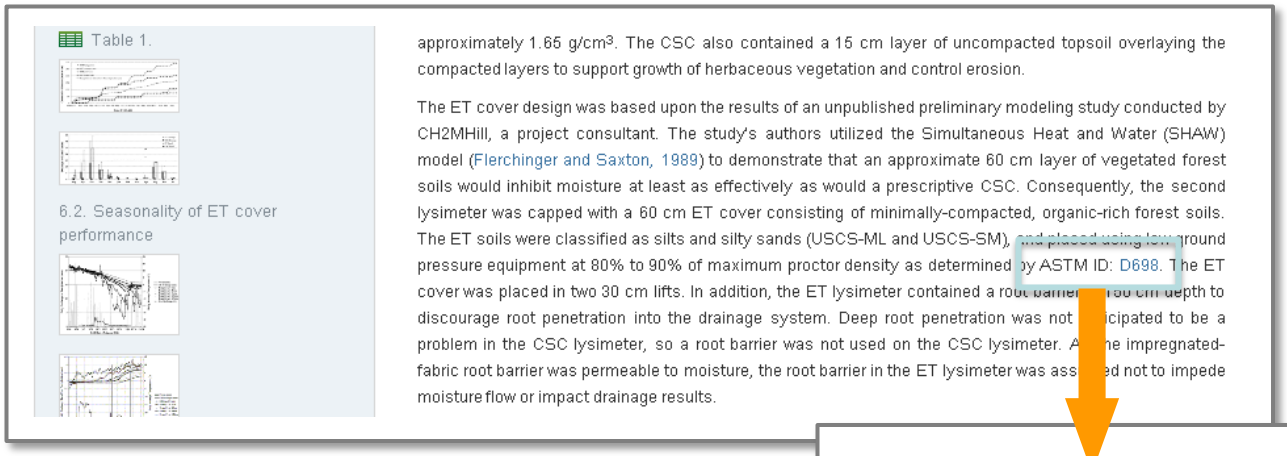


Table 1.

6.2. Seasonality of ET cover performance

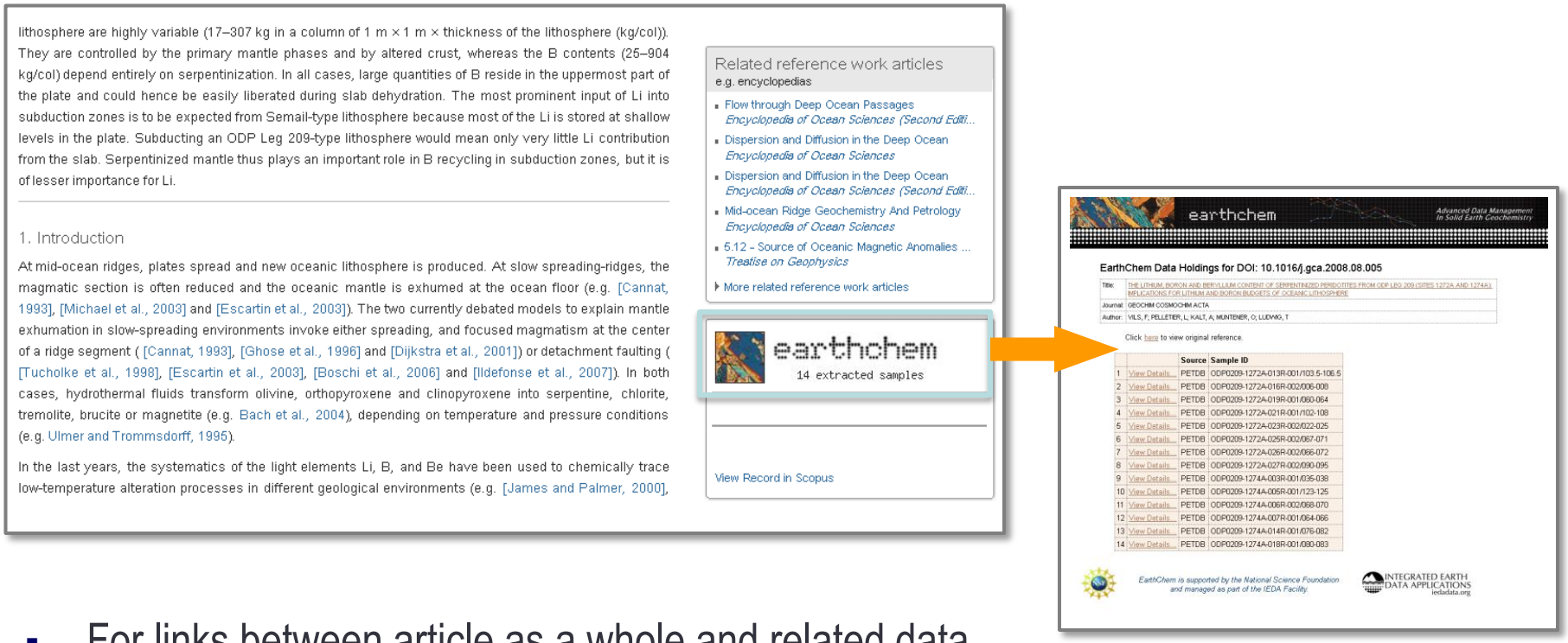
approximately 1.65 g/cm3. The CSC also contained a 15 cm layer of uncompacted topsoil overlaying the compacted layers to support growth of herbaceous vegetation and control erosion.

The ET cover design was based upon the results of an unpublished preliminary modeling study conducted by CH2MHill, a project consultant. The study's authors utilized the Simultaneous Heat and Water (SHAW) model (Flerchinger and Saxton, 1989) to demonstrate that an approximate 60 cm layer of vegetated forest soils would inhibit moisture at least as effectively as would a prescriptive CSC. Consequently, the second lysimeter was capped with a 60 cm ET cover consisting of minimally-compacted, organic-rich forest soils. The ET soils were classified as silts and silty sands (USCS-ML and USCS-SM), and placed using low ground pressure equipment at 80% to 90% of maximum proctor density as determined by ASTM ID: D698. The ET cover was placed in two 30 cm lifts. In addition, the ET lysimeter contained a root barrier at 150 cm depth to discourage root penetration into the drainage system. Deep root penetration was not anticipated to be a problem in the CSC lysimeter, so a root barrier was not used on the CSC lysimeter. A fabric-impregnated-fabric root barrier was permeable to moisture, the root barrier in the ET lysimeter was assumed not to impede moisture flow or impact drainage results.

- For entities (concepts) mentioned in an article – proteins, genes, standards
  planets, cities, etc. etc.
- Author-tagged in manuscript

http://dx.doi.org/10.1016/j.coldregions.2012.03.009

Option 2: Image-based (article) linking

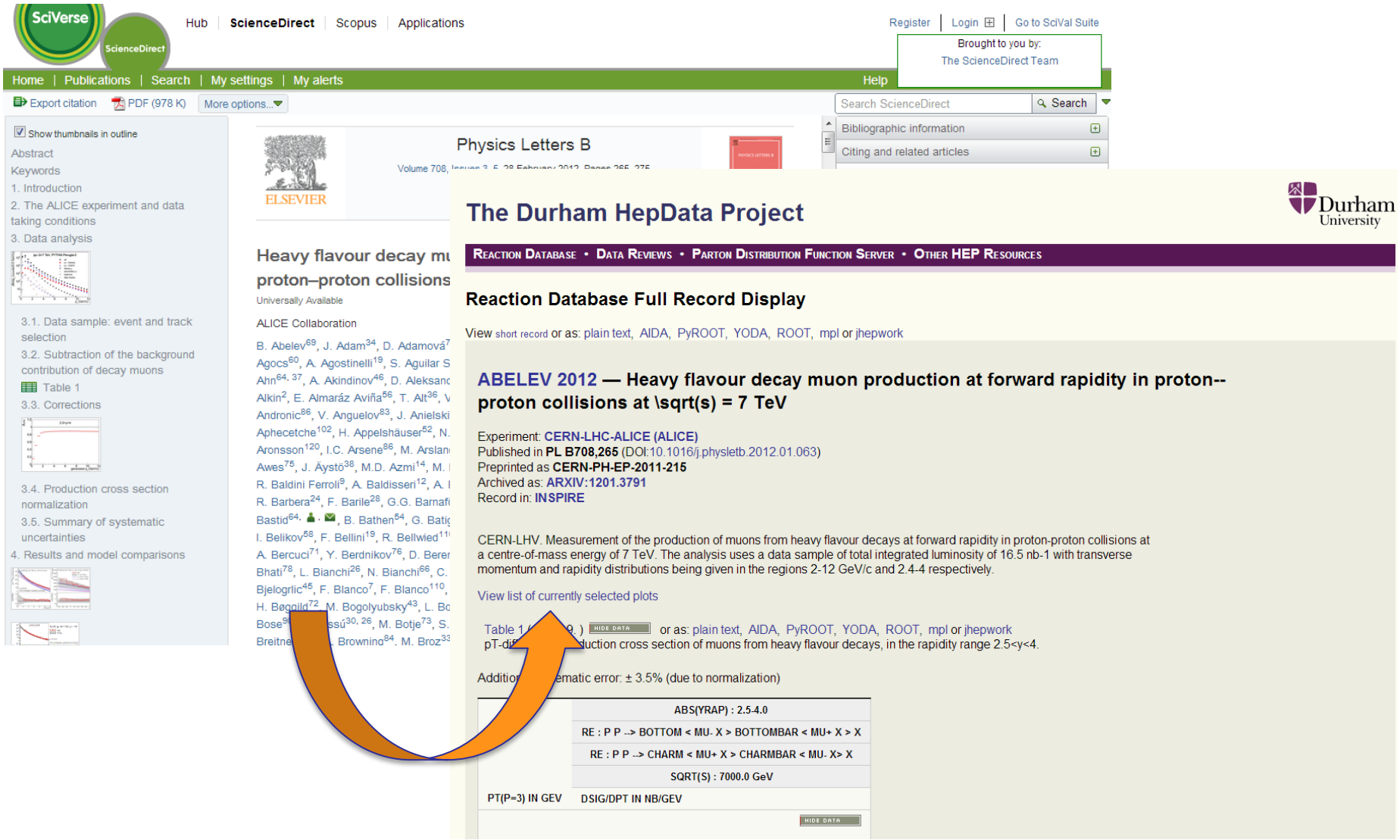


- For links between article as a whole and related data sets
- No author involvement required on Elsevier side
- Links managed by data repository

http://dx.doi.org/10.1016/j.gca.2008.08.005

HEPData Linking

See talk from Mike Whalley



Option 3: Linking app

- Pull data from repository to display with article
- Interactive
- App framework very flexible and versatile – many possibilities!

http://dx.doi.org/10.1016/S0025-3227(03)00372-4

Example: PDGLive linking

MOCK-UP

SciVerse ScienceDirect | Hub | ScienceDirect | Scopus | Applications | Sophia Atzeni | Logout | Go to SciVal Suite

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Physics Letters B
Volume 716, Issue 1, 17 September 2012, Pages 1–29

Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC ☆

Universally Available

This paper is dedicated to the memory of our ATLAS colleagues who did not live to see the full impact and significance of their contributions to the experiment.

ATLAS Collaboration*

G. Aad[48], T. Abajyan[21], B. Abbott[111], J. Abdallah[12], S. Abdel Khalek[115], A.A. Abdelalim[49], O. Abdinov[11], R. Aben[105], B. Abi[112], M. Abolins[88], O.S. AbouZeid[158], H. Abramowicz[153], H. Abreu[136], B.S. Acharya[164a, 164b], L. Adamczyk[38], D.L. Adams[25], T.N. Addy[56], J. Adelman[176], S. Adomeit[98], P. Adragna[75], T. Adye[129], S. Aefsky[23], J.A. Aguilar-Saavedra[124b, a], M. Agustoni[17], M. Aharrouche[81], S.P. Ahlen[22], F. Ahles[48], A. Ahmad[148], M. Ahsan[41], G. Aielli[133a, 133b], T. Akdogan[19a], T.P.A. Åkesson[79], G. Akimoto[155], A.V. Akimov[64], M.S. Alam[2], M.A. Alam[76], J. Albert[169], S. Albrand[55], M. Aleksa[30], I.N. Aleksandrov[64], F. Alessandria[89a], C. Alexa[26a], G. Alexander[153], G. Alexandre[49], T. Alexopoulos[10], M. Alhroob[164a, 164c], M. Aliev[16], G. Alimonti[89a], J. Allison[120], B.M.M. Allbrooke[18], P.P. Allport[73], S.E. Allwood-Spiers[53], J. Almond[82], A. Aloisio[102a, 102b], R. Alon[172], A. Alonso[79], F. Alonso[70], A. Altheimer[35], B. Alvarez Gonzalez[88], M.G. Alviggi[102a, 102b], K. Amako[65], C. Amelung[23], V.V. Ammosov[128, *], S.P. Amor Dos Santos[124a], A. Amorim[124a, b], N. Amram[153], C. Anastopoulos[30], L.S. Ancu[17], N. Andari[115], T. Andeen[35], C.F. Anders[58b], G. Anders[58a], K.J. Anderson[31], A. Andreazza[89a, 89b], V. Andrei[58a], M.-L. Andrieux[55], X.S. Anduaga[70], S. Angelidakis[9], P. Anger[44], A. Angerami[35], F. Anghinolfi[30], A. Anisenkov[107], N. Anjos[124a], A. Annovi[47], A. Antonaki[9], M. Antonelli[47], A. Antonov[96], J. Antos[144b], F. Anulli[132a], M. Aoki[101], S. Aoun[83], L. Aperio Bella[5], R. Apolle[118, c], G. Arabidze[88], I. Aracena[143], Y. Arai[65], A.T.H. Arce[45], S. Arfaoui[148], J.-F. Arguin[93], E. Arik[19a, *], M. Arik[19a], A.J. Armbruster[87], O. Arnaez[81], V. Arnal[80], C. Arnault[115], A. Artamonov[95], G. Artoni[132a, 132b], D. Arutinov[21], S. Asai[155], S. Ask[26], B. Åsman[148a, 148b], L. Asquith[6], K. Assamagan[25], A. Astbury[169], M. Atkinson[165], B. Aubert[5], E. Auge[115], K. Augsten[127], M. Aurousseau[145a], G. Avolio[163], R. Avramidou[10], D. Axen[168], G. Azuelos[93, d], Y. Azuma[155], M.A. Baak[30], G. Baccaglioni[89a], C. Bacci[134a, 134b], A.M. Bach[15], H. Bachacou[136], K. Bachas[30], M. Backes[49], M. Backhaus[21], J. Backus Mayes[143], E. Badescu[26a], P. Bagnaia[132a, 132b], S. Bahinipati[3], Y. Bai[33a], D.C. Bailey[158], T. Bain[158], J.T. Baines[129], O.K. Baker[176], M.D. Baker[25], S. Baker[77], P. Balek[126], E. Banas[39], P. Banerjee[93], Sw. Banerjee[173], D. Banfi[30], A. Bangert[150], V. Bansal[169], H.S. Bansil[18], L. Barak[172], S.P. Baranov[94], A. Barbaro Galtieri[15], T. Barber[48], E.L. Barberio[86], D. Barberis[50a, 50b], M. Barbero[21], D.Y. Bardin[64], T. Barillari[99], M. Barisonzi[175], T. Barklow[143], N. Barlow[28], B.M. Barnett[129], R.M. Barnett[15], A. Baroncelli[134a], G. Barone[49], A.J. Barr[118], F. Barreiro[80], J. Barreiro Guimarães da Costa[57], P. Barrillon[115], R. Bartoldus[143], A.E. Barton[71], V. Bartsch[149], A. Basye[165], R.L. Bates[53], L. Batkova[144a], J.R. Batley[28], A. Battaglia[17], M. Battistin[30], F. Bauer[136], H.S. Bawa[143, e], S. Beale[98], T. Beau[78], P.H. Beauchemin[161], R. Beccherle[50a], P. Bechtle[21], H.P. Beck[17], A.K. Becker[175], S. Becker[98], M. Beckingham[138], K.H. Becks[175], A.J. Beddall[19c], A. Beddall[19c], S. Bedikian[176], V.A. Bednyakov[64], C.P. Bee[83], L.J. Beemster[105], M. Begel[25],

Bibliographic information

Citing and related articles

Applications and tools

Elementary particles in this article

More information about this application

<< Back to overview

Muon (42)

Lepton, J=1/2

Mass m

0.1134289267 ± 0.0000000029 u
105.6583715 ± 0.0000035 MeV

Mean life τ

$(2.1969811 \pm 0.0000022) \times 10^{-6}$ s
$\tau_{\mu^+}/\tau_{\mu^-} = 1.00002 \pm 0.00008$
$c\tau = 658.6384$ m

Magnetic moment anomaly

$(g-2)/2 = 0.0011659209 \pm 0.0000000006$
$(g_{\mu^+} - g_{\mu^-})/g_{\text{average}} = (-1.1 \pm 1.2) \times 10^{-9}$

Electric dipole moment

$d = (-1 \pm 9) \times 10 - 20$ e cm

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Outlook

- Elsevier already engaged with the high energy physics community
  - Open Access
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  - A new dimension in scientific publishing
- Many possibilities for the future of publications to explore together!

Thank you!!

Eleonora Presani – e.presani@elsevier.com