

The role of SPIRES/INSPIRE in HEP Data Preservation

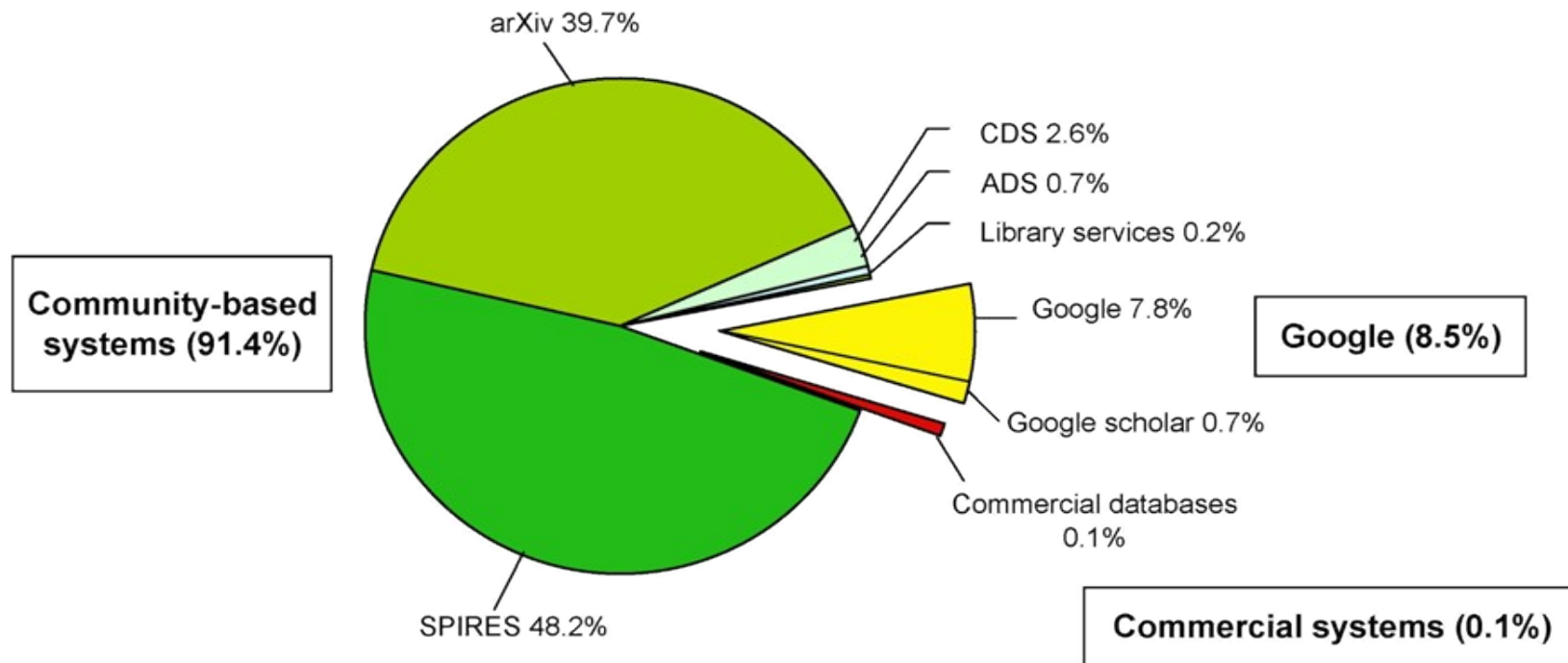
Travis Brooks
SPIRES Database Manager
SLAC National Accelerator Laboratory

Why am I here?

- The future of SPIRES: INSPIRE
 - A place for small data and connections to big data
- Why INSPIRE matters for Data
- Examples of big datasets linked with literature
- The importance of 'small' data

SPIRES' community role

SURVEY OF OVER 2000 PHYSICISTS Which HEP information system do you use the most?



Information Resources in High-Energy Physics: Surveying the Present Landscape and Charting the Future Course. SLAC-PUB-13199, Apr 2008. Accepted for Publication in *Journal of American Society of Information Science and Technology* arXiv:0804.2701 [cs.DL]

SPIRES' community role

- Our community relies on SPIRES as their entry point to information
- Ease of access matters
- SPIRES Jobs site:
 - Started 5 years ago
 - 50K searches/month
 - (The) leading location for HEP jobs
 - Community matters

INSPIRE

- Next generation of SPIRES
 - Modern Technology – Invenio (LAMP)
- CERN, DESY, Fermilab, and SLAC
- Rollout expected in mid/late this year
- Open API for getting things in/out
 - so put it anywhere, and get it out somewhere else, we provide the glue

Welcome to an [Inspire](#) test server. Please go to [SPIRES](#) if you are here by mistake.



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[Home](#) > Record#705686: Axions In String Theory

Information | References | Citations | Discussion | Usage statistics | Fulltext

Axions In String Theory.

Peter Svrcek (Stanford U., Phys. Dept. & SLAC), Edward Witten (Princeton, Inst. Advanced Study).
May 22, 2006

Published in: **JHEP 0606: 051, 2006**
e-Print: **hep-th/0605206**

Abstract: In the context of string theory, axions appear to provide the most plausible solution of the strong CP problem. However, as has been known for a long time, in many string-based models, the axion coupling parameter F_a is several orders of magnitude higher than the standard cosmological bounds. We re-examine this problem in a variety of models, showing that F_a is close to the GUT scale or above in many models that have GUT-like phenomenology, as well as some that do not. On the other hand, in some models with Standard Model gauge fields supported on vanishing cycles, it is possible for F_a to be well below the GUT scale.

Keyword(s): [string model: heterotic](#); [gauge field theory: SU\(3\)](#); [instanton](#); [axion](#); [violation: CP](#); [dimensional reduction](#); [anomaly](#); [membrane model: D-brane](#); [bibliography](#)

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Axions in String Theory - [Svrcek, Peter](#) *et al* hep-th/0605206 SLAC-PUB-11894

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- (115) [Four-dimensional String Compactifications with D-Branes, Orientifolds and Fluxes](#) - [Blumenhagen, Ralph](#) *et al* hep-th/0610327 CERN-PH-TH-2006-218
- (51) [On inflation in string theory](#) - [Kallosh, Renata](#) hep-th/0702059 [HEP-TH]
- (32) [String Cosmology: A Review](#) - [McAllister, Liam](#) *et al* arXiv:0710.2951 [hep-th] SLAC-PUB-12782, SITP-07-17
- (20) [Axions: Motivation, limits and searches](#) - [Raffelt, Georg G.](#) hep-ph/0611118 MPP-2006-146
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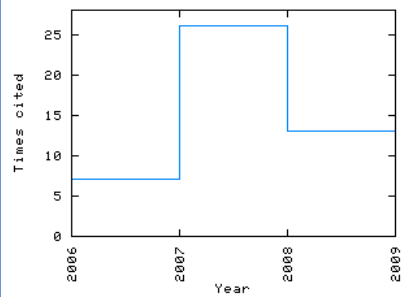
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- (24) [Hierarchies from fluxes in string compactifications](#) - [Giddings, Steven B.](#) *et al* hep-th/0105097 SLAC-PUB-8807, NSF-ITP-01-37, SU-ITP-01-16
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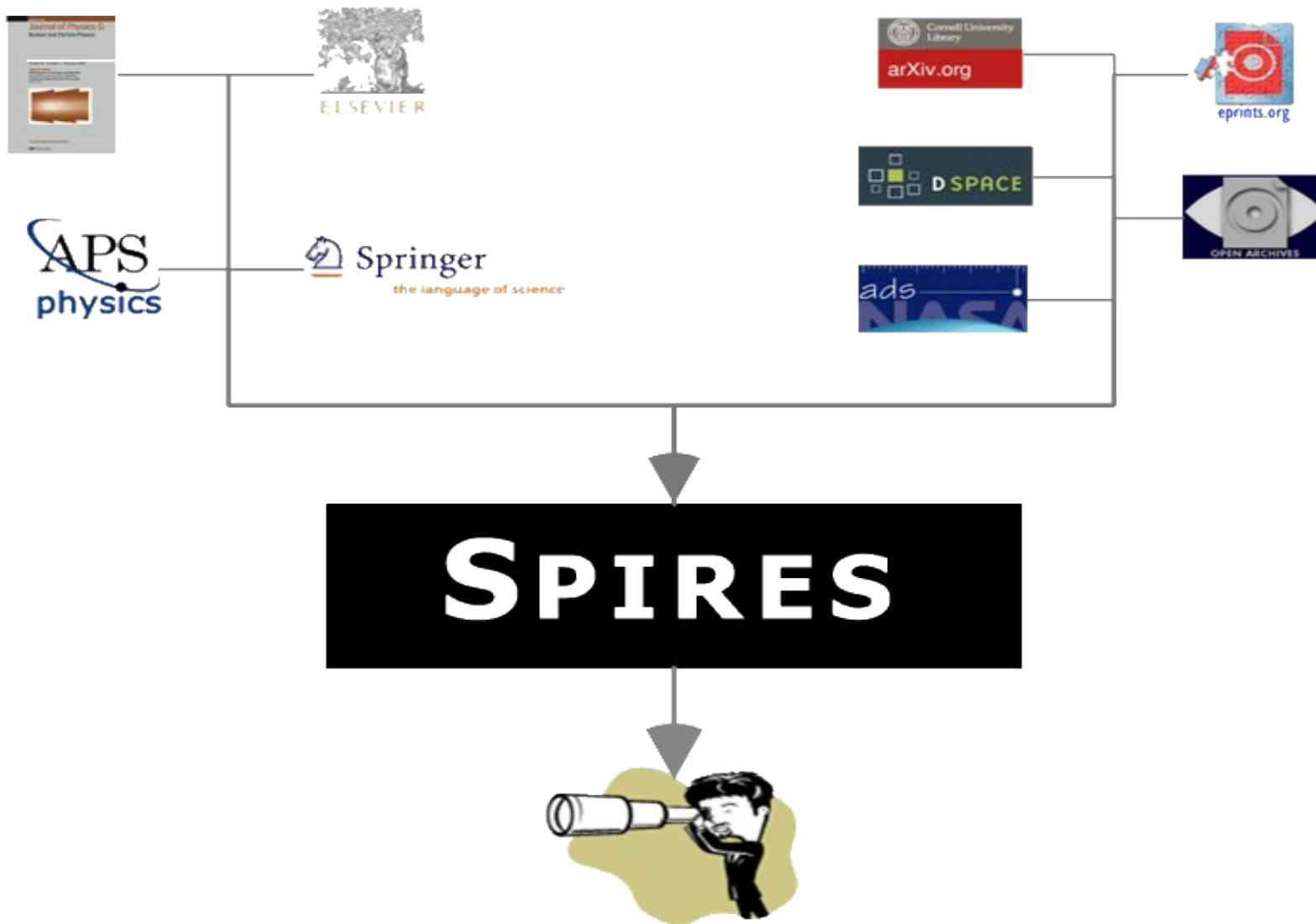


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Frequent co-authors:																																					
Cachazo, Freddy (5) Witten, Edward (4) Kachru, Shamit (2) Diaconescu, Duiliu-Emanuel (1) Florea, Bogdan (1) McGreew, John (1)																																					

See also: similar author names
 1 [Svrcek, P.](#)





Literature and Data

- Context
 - Instrumentation and Results papers
 - Authors (attribution + citation)
- Search
 - Preservation is useless if it is not accessible (by someone)
 - Accessibility is important – but 'findability' even more so

Demand -> Preservation

- Demand is the best guarantor of preservation
 - Provides motivation
 - Use can be improved by access
- Centralization and connection promotes visibility, and hence demand





Long Tail

- 600 hep-ex papers in 2008 from ~75 different collaborations (or “on behalf of” collabs.)
- ~50 collabs with < 10 papers
- Centralizing and curating large expt data, provides a path for the small groups
 - CDF or ALEPH might keep a website with old data, software and access policies running for a while.
 - But can experiments 1/10th that size do that?



Insuring That Capsules Aren't Lost to Time

SPECIAL TO THE NEW YORK TIMES
Published: June 4, 1990

-  E-MAIL
-  PRINT
-  REPRINTS
-  SAVE

LEAD: Three years ago, residents of the town of Wilkinsburg, Pa., prepared to dig up a time capsule buried in the last century. But nobody could remember where it was.

Three years ago, residents of the town of Wilkinsburg, Pa., prepared to dig up a time capsule buried in the last century. But nobody could remember where it was.

"It seems that the people who buried the capsule decided to keep its location a secret so it wouldn't be vandalized," said Knute Berger, a Seattle writer who is an expert on time capsules. "They just assumed somebody would be around who knew where it was buried." It was never found.

Current Connections

- PDG (PDGLive)
- Durham reactions

3) Search for lepton flavor violating tau- decays into l- eta, l- eta-prime and l- pi0.

By BELLE Collaboration (Y. Miyazaki *et al.*). BELLE-PRERPINT-2007-13, KEK-PRERPINT-2006-78, Mar 2007. 16pp.

Published in **Phys.Lett.B648:341-350,2007**.

e-Print: **hep-ex/0703009**

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[pdgLive \(measurements quoted by PDG\)](#)

[EXP KEK-BF-BELLE](#)

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4) Search for charmed pentaquarks in high energy anti-neutrino interactions.

G. De Lellis, A.M. Guler, J. Kawada, U. Kose, O. Sato, F. Tramontano (Naples U. & INFN, Naples & Middle East Tech. U., Ankara & Nagoya U.) . 2007.

15pp.

Published in **Nucl.Phys.B763:268-282,2007**.

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[pdgLive \(measurements quoted by PDG\)](#)

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5) A new experimental limit for the stability of the electron.

H.V. Klapdor-Kleingrothaus, I.V. Krivosheina, I.V. Titkova (Heidelberg, Max Planck Inst.) . 2007. 10pp.

Published in **Phys.Lett.B644:109-118,2007**.

[LaTeX\(US\)](#) | [LaTeX\(EU\)](#) | [Harvmac](#) | [BibTeX](#) | [Keywords](#) | Cited [3 times](#)

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from the 2008 Review of Particle Physics.
Please use this **CITATION**: [C. Amsler et al.](#) (Particle Data Group), Phys. Lett. **B667**, 1 (2008)

MIYAZAKI 2007 (PHLTA,B648,341)

Physics Letters **B648** (2007) 341

MIYAZAKI 2007 Search for Lepton Flavor Violating τ^- Decays into $l^- \eta$, $l^- \eta'$ and $l^- \pi^0$

Y. Miyazaki ... [BELLE Collab.](#)

	Measurement	(Unit)	Particle (Section)	Observable
limit	$<8.0 \times 10^{-8}$		τ	$\Gamma(e^- \pi^0) / \Gamma_{\text{total}}$
not used	$<1.2 \times 10^{-7}$		τ	$\Gamma(\mu^- \pi^0) / \Gamma_{\text{total}}$
limit	$<9.2 \times 10^{-8}$		τ	$\Gamma(e^- \eta) / \Gamma_{\text{total}}$
limit	$<6.5 \times 10^{-8}$		τ	$\Gamma(\mu^- \eta) / \Gamma_{\text{total}}$
limit	$<1.6 \times 10^{-7}$		τ	$\Gamma(e^- \eta'(958)) / \Gamma_{\text{total}}$
limit	$<1.3 \times 10^{-7}$		τ	$\Gamma(\mu^- \eta'(958)) / \Gamma_{\text{total}}$

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C. Bacci, et al. . LNF-74/61-P, Nov 1974. 4pp.

Published in **Phys.Rev.Lett.****33:1408,1974**, **Erratum-ibid.****33:1649,1974**.

TOPCITE = 500+

[References](#) | [LaTeX\(US\)](#) | [LaTeX\(EU\)](#) | [Harvmac](#) | [BibTeX](#) | Cited [502 times](#)[Journal Server](#)[ADS Abstract Service](#)[pdgLive \(measurements quoted by PDG\)](#)[Scanned Version](#) (KEK Library)[Reaction Data \(Durham\)](#)[Bookmarkable link to this information](#)**[7127](#) Nonobservation of Heavier J Particles from p - Nucleon Reactions.**

J.J. Aubert et al. Print-74-1663 (MIT), Nov 1974. 2pp.

Published in **Phys.Rev.Lett.****33:1624,1974**.[References](#) | [LaTeX\(US\)](#) | [LaTeX\(EU\)](#) | [Harvmac](#) | [BibTeX](#) | Cited [42 times](#)[Journal Server](#)

Jefferson Lab. Hall A Collaboration. Measurement of the cross section for Compton Scattering (RCS) on the proton at high momentum transfer. The photon beam was produced by electrons of energies up to 6 GeV on a copper radiator..

X-
 Y-

Plot Table 1 as [\(lin-lin\)](#) or [\(log-lin\)](#)

Table: 1
 Cross section of proton Compton Scattering at centre of mass energy squared of 4.82 GeV.
 Location: T 1,F 4

.		RE : GAMMA P --> GAMMA P
.		S IN GEV**2 : 4.82 +- 0.56
.		
-T IN GEV**2	THETA(RF=CM) IN DEGREES	D(SIG)/DT IN NB/GEV**2
1.60 TO 1.70 1.95 TO 2.07 2.52 TO 2.68	89.00 TO 91.00 103.1 TO 105.7 126.1 TO 129.7	6.37 +- 0.18 4.59 +- 0.13 2.18 +- 0.05
<input type="button" value="plot selected"/>	<input type="button" value="plot selected"/>	Numbers Plot Log-Plot Select <input type="checkbox"/>

Plot Table 2 as [\(lin-lin\)](#) or [\(log-lin\)](#)

Other fields?

- Many fields publish data in papers
- Astro and HEP do not
 - Photographic plates contained more data than could be reproduced
 - Ditto for HEP datasets...papers aren't rich enough
 - (and PRD/arXiv won't accept petabytes)

An Example

- NASA-ADS
- Tradition of separate data
 - Photographic plates stored elsewhere
 - Now digital datasets



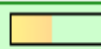
- 184 [□ 2004ApJS..155..149K](#) 1.000 11/2004 [A](#) [E](#) [D](#) [R](#) [C](#) [S](#) [O](#) [U](#)
 Kurtz, Stan; Hofner, Peter;
 Álvarez, Carlos Vargas A Catalog of CH₃OH 7₀₋₆₁ A⁺ Maser Sources in Massive Star-forming Regions
-
- 185 [□ 2004ESASP.555E.126A](#) 1.000 10/2004 [A](#) [F](#) [G](#) [T](#) [U](#)
 Auweter-Kurtz, M.; Kurtz, H. High Thrust Density Electric Propulsion for Heavy Payload In-Space Transportation
-
- 186 [□ 2004ESASP.555E..81N](#) 1.000 10/2004 [A](#) [F](#) [G](#) [T](#) [U](#)
 Nawaz, A.; Auweter-Kurtz, M.;
 Kurtz, H.; Wagner, H. P. Pulsed Plasma Thrusters for Primary Propulsion and Attitude Control of a Small All Electrical Satellite
-
- 187 [□ 2004ApJS..154..579A](#) 1.000 10/2004 [A](#) [E](#) [R](#) [C](#) [S](#) [O](#) [U](#)
 Araya, E.; Hofner, P.; Linz, H.;
 Sewilo, M.; Watson, C.;
 Churchwell, E.; Olmi, L.; Kurtz, S. A Search for H₂CO 6 Centimeter Emission toward Young Massive Stellar Objects
-
- 188 [□ 2004ApJS..154..553S](#) 1.000 10/2004 [A](#) [E](#) [X](#) [D](#) [R](#) [C](#) [S](#) [O](#) [U](#)
 Sewilo, M.; Watson, C.; Araya, E.; Resolution of Distance Ambiguities of Inner Galaxy Massive Star Formation Regions. II.

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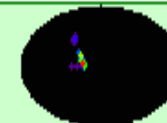


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 Inner galaxy massive star formation regions (Sewilo+, 2004)

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2	G345.00-0.22								
3	G345.40-0.94								
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5	G345.50+0.35								
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7	G349.83-0.53	238.3	7.7	-25.7	0.1	25.9	0.3	6.57	0.06
8	G10.16-0.35	1493.7	26.3	12.5	0.1	32.9	0.1	52.35	0.19
9	G10.31-0.15	468.7	10.7	9.4	0.1	32.0	0.2	15.96	0.07
10	G10.46+0.03	81.2	6.1	70.2	0.3	21.9	0.7	1.89	0.05
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Bibliographic Information

Author(s)	Elkin, V. G.; Kurtz, D. W.; Freyhammer, L. M.; Hubrig, S.; Mathys, G.				
Title	A search for rapid pulsations in the magnetic cool chemically peculiar star HD3980				
Journal	MNRAS	Vol.	390	Pages	1250-1257
Publication year	2008				
Abstract	ADS				
BibCode	2008MNRAS.390.1250E				

Observation Information

Site / Archive	Paranal , Staff+Instr				
Telescope(s)	VLT				
Instrument(s)	UVES				
Program ID(s)	074.D-0392 076.D-0535 077.D-0150				

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Lessons for HEP?

- No one size fits all solution, but there are working examples
- Highlights the cyberinfrastructure needed
 - Making large data sets available (even if not public) is a non-trivial matter, even beyond the clear problems of preservation and format etc.
- Note that astro has a model where global organization and connection to literature is done
 - But data is stored in several independent datastores

Small(er) Data

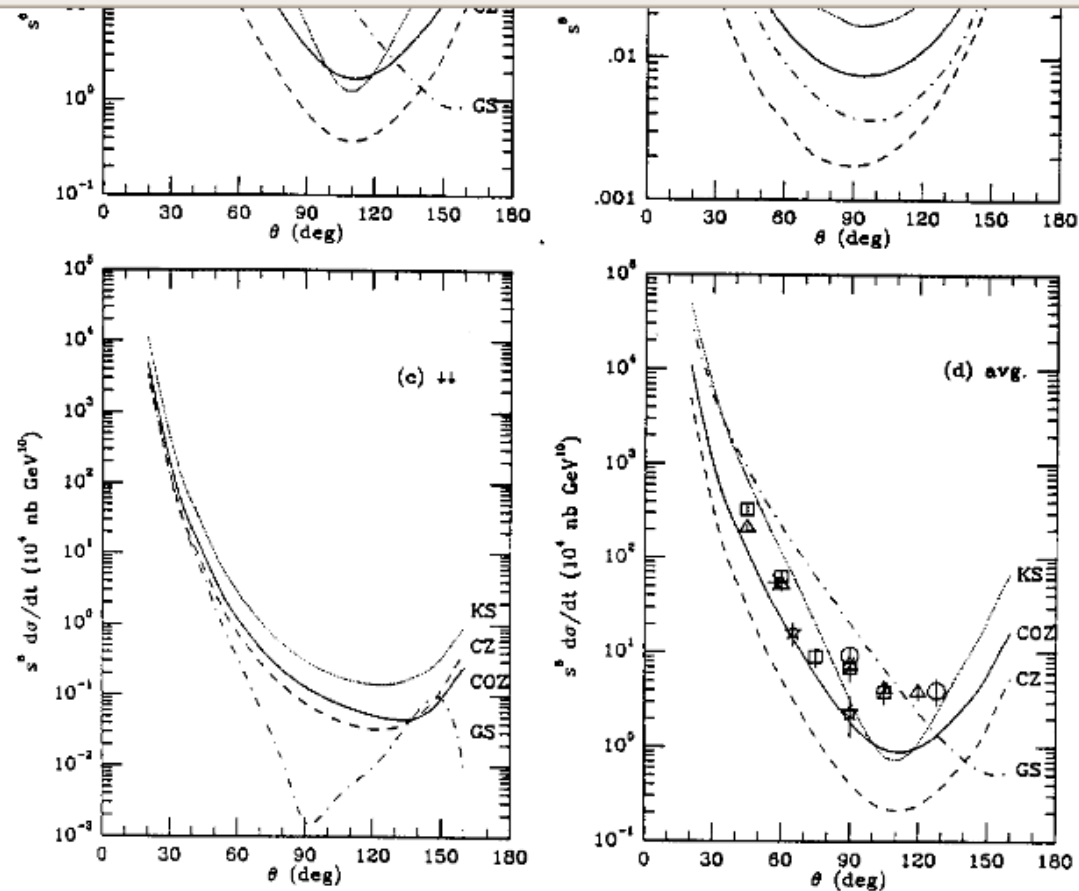


Figure 4: Differential cross sections for (a) $\gamma^\dagger P^\dagger \rightarrow \gamma^\dagger P^\dagger$, (b) $\gamma^\dagger P^\dagger \rightarrow \gamma^\dagger P^\dagger$, (c) $\gamma^\dagger P^\dagger \rightarrow \gamma^\dagger P^\dagger$, and (d) unpolarized proton Compton scattering. The experimental data [5] in (d) are at $s = 4.63 \text{ GeV}$ (circles), $s = 6.51 \text{ GeV}$ (triangles), $s = 8.38 \text{ GeV}$ (squares), $s = 10.26 \text{ GeV}$ (five-pointed stars), and $s = 12.16 \text{ GeV}$ (asterisk).

A Smaller Project

- Author (collaboration) submitted data behind figures and tables and beyond, but short of large (reco/raw) data sets
 - Durham HEPDATA is a start
 - submission -> standardized (at least standard practice)
 - Should be integrated with INSPIRE
- Even author lists?
 - (which are now significant datasets!)

Summary

- HEP Data Preservation has many open questions
 - Discoverability and context are important
 - INSPIRE can be custodians of metadata (we already are)
 - We have a chance to define standards and practices at the metadata level as well as data level
- Short-term
 - Build connections for “small(er) data”
 - Data behind figures