

Infrastructure & Services

Matching Documents & Resolving References

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astrophysics
data system



Matching Documents

- Matching arxiv record to publisher record and vice versa
- One of the two available in database
- Classic vs the new service

year	total number of bibcodes compared	number of matches ≈ 99.5%	number of differences ≈ 0.5%	
			number of correctly matched only by new service ≈ 44%	number of matches only by classic (mostly hand curation and some errors) ≈ 56%
2020	19203	19137	29	37
2019	47234	46918	133	183
2018	47448	47276	77	95

Matching Documents

New Service Implementation

1. Available from metadata
 - abstract, title, author, and year
 - from arXiv metadata have published doi
 - also look for word “thesis” to have a match to MS or PhD thesis
2. Query ADS API
 - if DOI
 - else if matching to thesis: author/year/doctype
 - else
 - using “similar function” (API) with abstract
 - using “similar function” (API) with title
3. Compute similarity score for abstract, title, author and year
 - similarity score for abstract and title is the quantification of how similarity the text are
 - similarity score for year and author is if they are exact equal
 - return a match if score is high passes threshold
 - identified threshold empirically by applying Support Vector Machine (SVM)

Matching Documents – New Service Performs Better

- When there is DOI in metadata
 - not always correct (ie, for errata)
 - not always archived in ADS
- When there is a word “thesis” in metadata
 - single author
 - year:[* TO <year from metadata>]
 - doctype:(phdthesis OR mastersthesis)
- When abstracts are very different
 - if matching an arXiv record and the arXiv class is one of astrophysics or physics classes
 - second database query with title
- When more than one record has been matched
 - if the confidence score is high, sign of duplicate records, warning to curators
 - if the confidence score is low, warning to curators, possibly learn from their action
 - confidence score is the belief of service of the correctness of the match

Matching Documents

Examples (green: metadata, red: classic, blue: new)

arXiv:1812.10529 (hep-ex) 2019JHEP...12..061C 2019JHEP...12..059C	Measurement of the differential Drell-Yan cross section in proton-proton collisions at $\sqrt{s} = 13$ TeV Measurements of differential Z boson production cross sections in proton-proton collisions at $\sqrt{s} = 13$ TeV Measurement of the differential Drell-Yan cross section in proton-proton collisions at $\sqrt{s} = 13$ TeV
arXiv:1801.03665 (physics) 2018JQSRT.220....5W 2018JQSRT.208..134W	Extended calculations of energy levels, radiative properties, AJ, BJ hyperfine interaction constants, and Landé gJ-factors for nitrogen-like Ge XXVI Extended calculations of energy levels, radiative properties, AJ, BJ hyperfine interaction constants, and Landé gJ-factors for Nitrogen-like Se XXVIII Extended calculations of energy levels, radiative properties, AJ, BJ hyperfine interaction constants, and Landé gJ-factors for nitrogen-like Ge XXVI
arXiv:1911.07026 (physics) 2020PhRvA.102a3501W 2019FrP.....7..253D	Period-doubling bifurcation of dissipative-soliton- resonance pulses in a passively mode-locked fiber laser Breach and recurrence of dissipative soliton resonance during period-doubling evolution in a fiber laser Period doubling of dissipative-soliton-resonance pulses in passively mode-locked fiber lasers
arXiv:1905.13704 (hep-ex) 2019PhRvD.100a2001C 2019PhRvD.100a2005A	Properties of $Z_c^\pm(3900)$ produced in pp^- collisions Evidence for $B^+ \rightarrow hcK^+$ and observation of $\eta_c(2S) \rightarrow p p^- \pi^+ \pi^-$ Properties of $Z_c^\pm(3900)$ produced in $p p^-$ collisions

Resolving References

- Find the record in database for the reference
- Inputs
 - text (mostly arXiv): segment and identify each token (ie, author, year, etc)
 - Conditional Random Field (CRF): predicts label of token with consideration to the labels of the neighbors
 - A. Wasey, A. Karmakar, and D. Das, J. Phys. Condens. Matter 25, 476001 (2013)
 - Virgo, LIGO Scientific collaboration, B. Abbott et al., GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral, Phys. Rev. Lett. 119 (2017) 161101, [1710.05832].
 - xml (from publishers): parse identified tokens
 - Simple rule based
 - Ported 11 parsers from classic covering 85% xml references
 - Differ in xml tags

Resolving References

xml formats (ie, CrossRef, Elsevier, and Springer)

```
<?xml version="1.0"?>
<citation key="ref1">
  <journal_title>Proc Natl Acad Sci U S A</journal_title>
  <author>SB Prusiner</author>
  <volume>95</volume>
  <first_page>13363</first_page>
  <cYear>1998</cYear>
  <doi
  provider="crossref">10.1073/pnas.95.23.13363</doi>
  <article_title>Prions</article_title>
</citation>
```

```
<?xml version="1.0"?>
<ce:bib-reference id="bib1">
  <ce:label>Ainsworth, 2016</ce:label>
  <sb:reference id="sref1">
    <sb:contribution langtype="en">
      <sb:authors>
        <sb:author>
          <ce:given-name>E.A.</ce:given-name>
          <ce:surname>Ainsworth</ce:surname>
        </sb:author>
      </sb:authors>
      <sb:title>
        <sb:maintitle>Understanding and improving global crop response to ozone
        pollution</sb:maintitle>
        </sb:title>
      </sb:contribution>
      <sb:host>
        <sb:issue>
          <sb:series>
            <sb:title>
              <sb:maintitle>Plant J.</sb:maintitle>
              </sb:title>
            <sb:volume-nr>90</sb:volume-nr>
          </sb:series>
          <sb:date>2016</sb:date>
        </sb:issue>
        <sb:pages>
          <sb:first-page>886</sb:first-page>
          <sb:last-page>897</sb:last-page>
        </sb:pages>
        <ce:doi>10.1111/tpj.13298</ce:doi>
      </sb:host>
    </sb:reference>
    <ce:source-text id="srct0025">Ainsworth, EA. 2016. Understanding and improving
    global crop response to ozone pollution. The Plant Journal 90: 886-897. DOI:
    10.1111/tpj.13298</ce:source-text>
  </ce:bib-reference>
```

```
<?xml version="1.0"?>
<Citation ID="C01">
  <CitationNumber>[1]</CitationNumber>
  <BibArticle>
    <BibAuthorName>
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      <FamilyName>Jaeckel</FamilyName>
    </BibAuthorName>
    <BibAuthorName>
      <Initials>A</Initials>
      <FamilyName>Ringwald</FamilyName>
    </BibAuthorName>
    <Year>2010</Year>
    <ArticleTitle Language="En">The Low-Energy Frontier of Particle
    Physics</ArticleTitle>
    <JournalTitle>Ann. Rev. Nucl. Part. Sci.</JournalTitle>
    <VolumeID>60</VolumeID>
    <FirstPage>405</FirstPage>
    <Occurrence Type="Bibcode">
      <Handle>2010ARNPS..60..405J</Handle>
    </Occurrence>
    <Occurrence Type="DOI">
      <Handle>10.1146/annurev.nucl.012809.104433</Handle>
    </Occurrence>
    <BibComments>[arXiv:1002.0329] [INSPIRE]</BibComments>
  </BibArticle>
  <BibUnstructured>J. Jaeckel and A. Ringwald, The Low-Energy Frontier of
  Particle Physics, Ann. Rev. Nucl. Part. Sci. 60 (2010) 405
  [<ExternalRef><RefSource>arXiv:1002.0329</RefSource><RefTarget
  Address="https://arxiv.org/abs/1002.0329"
  TargetType="URL"/></ExternalRef>]
  [<ExternalRef><RefSource>INSPIRE</RefSource><RefTarget
  Address="https://inspirehep.net/search?p=find+j+622Ann.Rev.Nucl.Part.Sci.,
  60,405%22" TargetType="URL"/></ExternalRef>].</BibUnstructured>
</Citation>
```

Resolving References

CRF Training: Author Variations

1. Multi word last name with and without hyphen
 - Bourrier, V., & Lecavelier des Etangs, A. 2013, A&A, 557, A124
 - Garcia-Sage, K., Glocer, A., Drake, J. J., Gronoff, G., & Cohen, O. 2017, ApJL, 844, L13
2. Having team/collaboration(s) with and without author(s)
 - Astropy Collaboration et al., 2013, A&A, 558, A33
 - Virgo, LIGO Scientific collaboration, B. Abbott et al., GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral, Phys. Rev. Lett. 119 (2017) 161101, [1710.05832].
3. Author listed with first initial first
 - N. D. Mermin and H. Wagner, Phys. Rev. Lett. 17, 1133 (1966)
4. Having first and middle initials combined, no dots
 - CS Casari, M Tommasini, RR Tykwinski, A Milani, Carbon-atom wires: 1-D systems with tunable properties, Nanoscale 2016; 8: 4414-35. DOI:10.1039/C5NR06175J.
5. Having full first name
 - Guenter Ahlers, Siegfried Grossmann, and Detlef Lohse, "Heat transfer and large scale dynamics in turbulent rayleigh-benard convection," Rev. Mod. Phys. 81, 503-537 (2009)
6. Having and/ampersand/et al

Resolving References

CRF Training: Year Variations

7. In parenthesis after author list

- Ghosal, S. and van der Vaart, A. (2017). "Fundamentals of Nonparametric Bayesian Inference", volume 44 of "Cambridge Series in Statistical and Probabilistic Mathematics". Cambridge University Press, Cambridge.

8. In parenthesis at the end

- N. D. Mermin and H. Wagner, Phys. Rev. Lett. 17, 1133 (1966)
- P. Giampa (DEAP-3600), Proceedings, 6th Topical Workshop on Low Radioactivity Techniques (LRT 2017): Seoul, Korea, May 24-26, 2017, AIP Conf. Proc. 1921, 070005 (2018)

9. After journal name

- CS Casari, A Milani, Carbyne: from the elusive allotrope to stable carbon atom wires, MRS Comm. 2018; 8(2): 207-19. DOI:10.1557/mrc.2018.48.

10. With another four-digit number that could be identified as year too

- Specht, H.J. Thermal Dileptons from Hot and Dense Strongly Interacting Matter. AIP Conf. Proc. 2010, 1822, 1-10, doi:10.1063/1.3541982.

11. Associated with publisher

- G. Weidenspointner "et al.", in "The Fifth Compton Symposium", AIP Conf. Proc., Vol. 510, edited by M. L. McConnell and J. M. Ryan (AIP, New York, 2000) pp. 467-470.

12. Duplicates

- M. Kumar, A. Goyal and R. Islam, "Dark matter in the Randall-Sundrum model", in "64th" Annual Conference of the South African Institute of Physics (SAIP2019) Polokwane, South Africa, July 8-12, 2019, 2019, 1908.10334.

Resolving References

CRF Training: Volume/Page Variations

13. Page number with qualifier

- Bourrier, V., Lecavelier des Etangs, A., Ehrenreich, D., Tanaka, Y. A., & Vidotto, A. A. 2016, A&A, 591, A121

14. Volume number with qualifier

- M. Bander Fractional quantum hall effect in nonuniform magnetic fields (1990) Phys. Rev. B41 9028

15. Volume, and page/page range with the corresponding indicator word

- Leeb, H. (2006). The distribution of a linear predictor after model selection: unconditional finite-sample distributions and asymptotic approximations. In "Optimality", volume 49 of "IMS Lecture Notes Monogr. Ser.", pages 291-311. Inst. Math. Statist., Beachwood, OH.
- Martayan C., Hubert A.-M., Floquet M., et al., 2007, in Okazaki A. T., Owocki S. P., Stefl S., eds, Astronomical Society of the Pacific Conference Series Vol. 361, Active OB-Stars: Laboratories for Stellare and Circumstellar Physics. p. 356 (arXiv:astro-ph/0602149)

16. With issue number

- Bhattacharya, A., Pati, D., Pillai, N. S., and Dunson, D. B. (2015). DirichletLaplace priors for optimal shrinkage. "J. Amer. Statist. Assoc.", 110(512):1479-1490.

Resolving References

CRF Training: arXiv id Variations

17. New arXiv id format with and without *arXiv* indicator
 - M. Kumar, A. Goyal and R. Islam, "Dark matter in the Randall-Sundrum model", in "64th" Annual Conference of the South African Institute of Physics (SAIP2019) Polokwane, South Africa, July 8-12, 2019, 2019, [1908.10334](#).
 - Nicholas A. Featherstone and Bradley W. Hindman, "The Spectral Amplitude of Stellar Convection and Its Scaling in the High-Rayleigh-number Regime," *Astrophys. J.* 818, 32 (2016), [arXiv:1511.02396](#) [astro-ph.SR]
18. Old arXiv id format with and without *arXiv* indicator
 - Martayan C., Hubert A.-M., Floquet M., et al., 2007, in Okazaki A. T., Owocki S. P., Stefl S., eds, *Astronomical Society of the Pacific Conference Series Vol. 361, Active OB-Stars: Laboratories for Stellar and Circumstellar Physics*. p. 356 ([arXiv:astro-ph/0602149](#))
 - A. Kleyn, Metric-affine manifold, [gr-qc/0405028](#)
19. With version number
 - R. Iengo and D. Li Quantum mechanics and quantum Hall effect on Riemann surfaces. (1993) [arXiv:hep-th/9307011v1](#)
20. In URL format new or old formats, or pdf link
 - Gravity Collaboration, Caratti o Garatti, A., Fedriani, R., et al. 2020, [https://arxiv.org/abs/2003.05404](#)
 - Ibata, R., Irwin, M., Lewis, G., Ferguson, A. M. N., & Tanvir, N. 2001, *Nature*, 412, 49. [https://arxiv.org/abs/astro-ph/0107090](#)
 - Mart inez-Aldama, M. L.; del Olmo, A.; Marziani, P.; Negrete, C. A.; Dultzin, D.; Mart inez-Carbalho, M. A. 2018, [https://arxiv.org/pdf/1801.04570.pdf](#)

Resolving References

CRF Training: DOI/arXiv Variations

21. In URL format
 - Catmull, E., & Clark, J. 1998 (New York, NY, USA: ACM), 183-188.
<http://doi.acm.org/10.1145/280811.280992>
22. Multiple DOI links, in addition to arXiv link
 - M. Rieutord, B. Georgeot, and L. Valdettaro. Inertial waves in a rotating spherical shell: attractors and asymptotic spectrum. "Journal of Fluid Mechanics", 435:42, 2000. ISSN 00221120. <https://doi.org/10.1017/S0022112097005491>. URL <http://dx.doi.org/10.1017/S0022112001003718>
<http://arxiv.org/abs/physics/0007007>.
23. One DOI included three times, with single arXiv id included two times
 - S. Beloin, S. Han, A. W. Steiner, D. Page, Constraining superfluidity in dense matter from the cooling of isolated neutron stars, Physical Review C 97 (1) (2018) 015804. [arXiv:1612.04289](http://arxiv.org/abs/1612.04289), [doi:10.1103/PhysRevC.97.015804](https://doi.org/10.1103/PhysRevC.97.015804). URL <http://arxiv.org/abs/1612.04289> <http://dx.doi.org/10.1103/PhysRevC.97.015804>
<https://link.aps.org/doi/10.1103/PhysRevC.97.015804>

Resolving References

CRF Training: Title/Journal Variations

24. Alphanumeric title/journal, also punctuations in the title and abbreviated journal name
- Virgo, LIGO Scientific collaboration, B. Abbott et al., **GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral**, **Phys. Rev. Lett.** 119 (2017) 161101.
 - T. P. Sotiriou and S. Liberati, **Metric-affine $f(R)$ theories of gravity**, **Annals Phys.** 322 (2007) 935-966.
 - W. Xing, Y. Chen, P. M. Odenthal, X. Zhang, W. Yuan, T. Su, Q. Song, T. Wang, J. Zhong, S. Jia, X. C. Xie, Y. Li, and W. Han, **2D Materials** 4, 024009 (2017)
 - Y. Feng, X. Wu, J. Han, and G. Gao, **J. Mater. Chem. C** 6, 4087 (2018)
25. Book reference with publisher information
- RB Heimann, SE Evsyukov, L Kavan, **Carbyne and Carbynoid Structures, Physics and Chemistry of Materizls with Low-dimensional Structures**, Springer Science+Business Media, Dordrecht; 1999.
26. Multi sentence title
- E. N. Kirby, J. G. Cohen, G. H. Smith, S. R. Majewski, S. T. Sohn and P. Guhathakurta, **Multi-element Abundance Measurements from Medium-resolution Spectra. IV. Alpha Element Distributions in Milky Way Satellite Galaxies**, **ApJ** 727 (2011) 79.
27. Title and Journal inside quotes
- Ghosal, S. and van der Vaart, A. (2017). "**Fundamentals of Nonparametric Bayesian Inference**", volume 44 of "**Cambridge Series in Statistical and Probabilistic Mathematics**". Cambridge University Press, Cambridge.

Resolving References – API Query (simple)

- Example 1:

- parsed reference: {'author': u'Moncrief, V.', 'bibstem': 'ApJ', 'refstr': u'Moncrief, V. "Astrophys. J." 1980, "235", 1038.', 'volume': u'235', 'pub': u'Astrophys J', 'year': u'1980', 'page': u'1038'}
- api query: `identifier:1980ApJ...235.1038M`

- Example 2:

- parsed reference: {'doi': u'10.1038/nature13156', 'author': u'Trujillo, C. A., and Sheppard, S. S.', 'bibstem': 'Natur', 'refstr': u'Trujillo, C. A., & Sheppard, S. S. 2014, Nature, 507, 471, doi: 10.1038/nature13156', 'volume': u'507', 'pub': u'Nature', 'year': u'2014', 'page': u'471'}
- api query: `doi:10.1038/nature13156`

- Example 3:

- parsed reference: {'year': u'2020', 'arxiv': u'2004.01198', 'refstr': u'Zderic, A., Collier, A., Tiongco, M., & Madigan, A.-M. 2020. <https://arxiv.org/abs/2004.01198>', 'author': u'Zderic, A., Collier, A., Tiongco, M., and Madigan, A. M.'}
- api query: `arxiv:2004.01198`

Resolve References – API Query (advanced)

- Example 1:

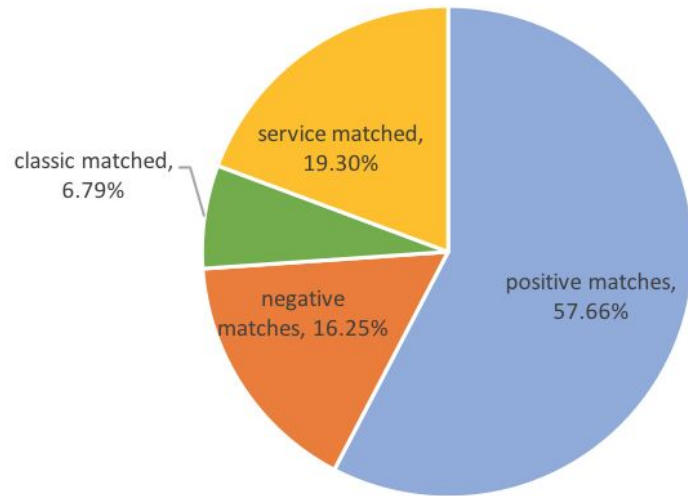
- parsed reference: {'author': u'B. P. Abbott', 'bibstem': 'PhRvL', 'refstr': u'B. P. Abbott et al (LIGO Scientific Collaboration and Virgo Collaboration), Phys. Rev. Lett. 116, 061102 (2016).', 'volume': u'116', 'pub': u'Phys Rev Lett', 'year': u'2016', 'page': u'061102'}
- api query 1: `identifier:2016PhRvL.11606110A`
 - YIELD `num_docs=0`
- api query 2: `volume:"116" AND year:"2016" AND page:"61102" AND author:("Abbott")`
 - YIELD `num_docs=1`

- Example 2:

- parsed reference: {'author': u'H. J. Rothe', 'title': u'Lattice Gauge Theories', 'refstr': u'H. J. Rothe, "Lattice Gauge Theories", 4th ed. (World Scientific, Singapore, 2012), and references therein.', 'year': u'2012'}
- api query: `year:"2012" AND author:("Rothe")`
 - YIELD `num_docs=33`

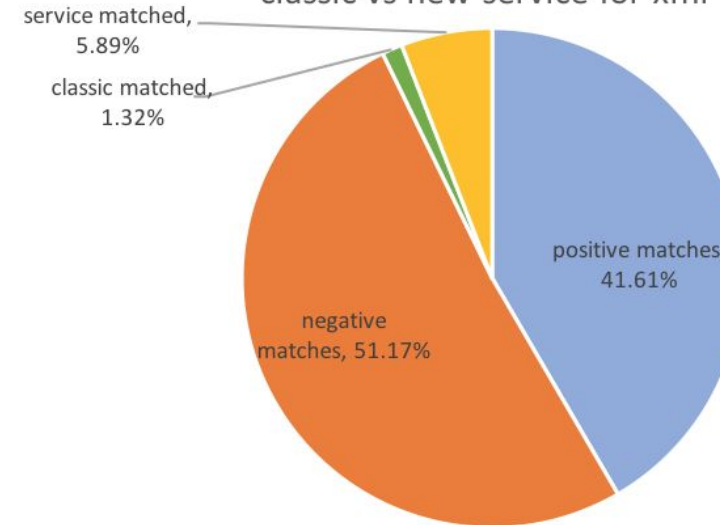
Resolving References – Classic vs. new service for Text and XML modes

classic vs new service for arXiv AST and PHY text



precision = positive / (positive + classic)	89.46%
recall = positive / (positive + service)	74.92%
fscore = 2 * precision * recall / (precision + recall)	81.55%
sensitivity = positive / positive + service	74.92%
specificity = negative / negative + classic	70.53%
service accuracy = positive + negative + service / total	93.21%
classic accuracy = positive + negative + classic / total	80.70%

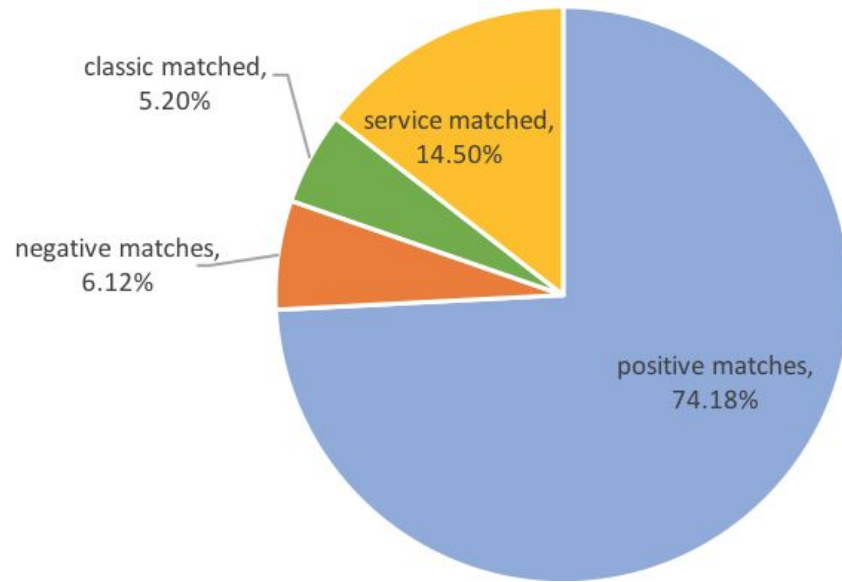
classic vs new service for xml



precision = positive / (positive + classic)	96.93%
recall = positive / (positive + service)	87.60%
fscore = 2 * precision * recall / (precision + recall)	92.03%
sensitivity = positive / positive + service	87.60%
specificity = negative / negative + classic	97.49%
service accuracy = positive + negative + service / total	98.67%
classic accuracy = positive + negative + classic / total	94.10%

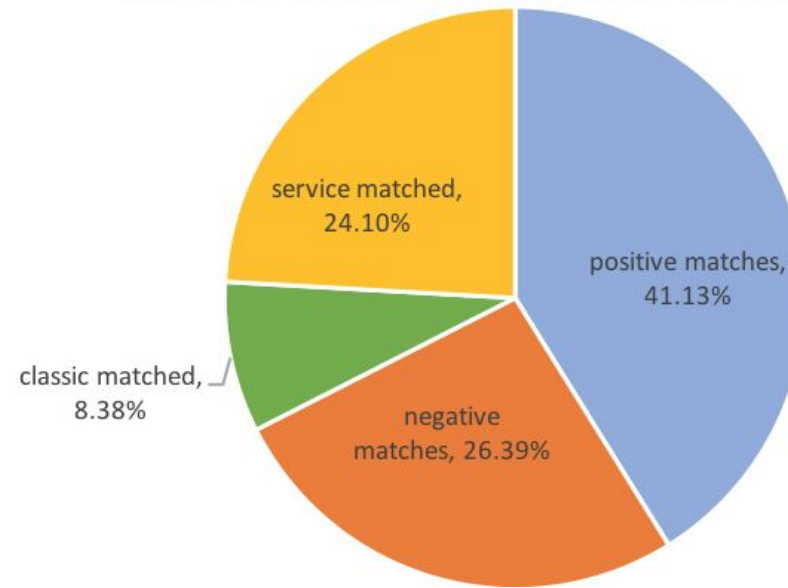
Resolving References – Classic vs. new service for AST and PHY in Text mode

classic vs new service for arXiv AST classes



number of documents	3609
number of references	228903
service accuracy	94.80%
classic accuracy	85.50%

classic vs new service for arXiv PHY classes



number of documents	9105
number of references	415927
service accuracy	91.62%
classic accuracy	75.90%

Resolve References – Service matched (2003. 06909)

score	bibcode	reference
0.7	2017NatCo...815484U	-- J. Ullmann, Z. Andelkovic, C. Brandau, A. Dax, W. Geithner, C. Geppert, C. Gorges, M. Hammen, V. Hannen, S. Kaufmann, et al., High precision hyperfine measurements in bismuth challenge bound-state strong-field qed, Nat. Commun. 8, 1 (2017)
1	1992LNP...400..415Y	-- K.Yokoya and P. Chen, Beam-beam phenomena in linear colliders, in Frontiers of Particle Beams: Intensity Limitations (Springer, 1992) pp. 415-445
0.8	1969JETP...30.1181R	-- V.I. Ritus, Radiative effects and their enhancement in an intense electromagnetic field, Sov. Phys. JETP 30, 1181 (1970)
1	1972AnPhy..69..555R	-- V.I. Ritus, Radiative corrections in quantum electrodynamics with intense field and their analytical properties, Ann. Phys. 69, 555 (1972)
1	1979PhRvD..20.1313N	-- N.B. Narozhny, Radiation corrections to quantum processes in an intense electromagnetic field, Phys. Rev. D 20, 1313 (1979)
1	1980PhRvD..21.1176N	-- N.B. Narozhny, Expansion parameter of perturbation theory in intense-field quantum electrodynamics, Phys. Rev. D 21, 1176 (1980)
0.8	1981TMP....48..594L	-- Y.M. Loskutov and V. V. Skobelev, Behavior of the mass operator in a superstrong magnetic field: Summation of the perturbation theory diagrams, Theor. Math. Phys. 48, 594 (1981)
1	1995PhLB..349..477G	-- V.P. Gusynin, V. A. Miransky, and I. A. Shovkovy, Dimensional reduction and dynamical chiral symmetry breaking by a magnetic field in 3 + 1 dimensions, Phys. Lett. B 349, 477 (1995)
1	2013PhRvD..88h5033K	-- F.Karbstein, Photon polarization tensor in a homogeneous magnetic or electric field, Physical Review D 88, 085033 (2013)
1	1969PhRv..187.2275J	-- B.Jancovici, Radiative correction to the ground-state energy of an electron in an intense magnetic field, Phys. Rev. 187, 2275 (1969)
0.9	2019PPCF...61g4010B	-- C.Baumann and A. Pukhov, Laser-solid interaction and its potential for probing radiative corrections in strong-field quantum electrodynamics, Plasma Phys. Control. Fusion 61, 074010 (2019)
0.9	2020PhRvL.124d4801D	-- A.Di Piazza, T. N. Wistisen, M. Tamburini, and U. I. Uggerhoj, Testing strong field qed close to the fully nonperturbative regime using aligned crystals, Phys. Rev. Lett. 124, 044801 (2020)
0.8	2018PhPl...25h3108B	-- T.G. Blackburn, D. Seipt, S. S. Bulanov, and M. Marklund, Benchmarking semiclassical approaches to strong-field QED: Nonlinear Compton scattering in intense laser pulses, Phys. Plasmas 25, 083108 (2018)
1	2018PhRvA..98a2134D	-- A.Di Piazza, M. Tamburini, S. Meuren, and C. H. Keitel, Implementing nonlinear Compton scattering beyond the local-constant-field approximation, Phys. Rev. A 98, 012134 (2018)
0.9	2019PhRvD..99h5002I	-- A.Ilderton, Note on the conjectured breakdown of QED perturbation theory in strong fields, Phys. Rev. D 99, 085002 (2019)
1	2015PhRvD..91a3009M	-- S.Meuren, K. Z. Hatsagortsyan, C. H. Keitel, and A. Di Piazza, Polarization-operator approach to pair creation in short laser pulses, Phys. Rev. D 91, 013009 (2015)

Resolve References – Service missed (2003.14197)

score	bibcode	reference	why missed?
1	1935tasp.book.....C	-- E. U. Condon and G. H. Shortley, "The Theory of Atomic Spectra" (Cambridge, 1935).	multiple matches found 1935tas..book.....C (authors=1, year=1.0, doctype=1, title=1.0) 1935tasp.book.....C (authors=1, year=1.0, doctype=1, title=1.0)
1	1971PhRvA...3.1546A	-- L. Armstrong Jr., Phys. Rev. A 3, 1546 (1971).	`Jr.` identified as part of author and was included in the query, hence no match
1	2009JPhA...42q5203H	-- T.A. Heim, J. Hinze and A. R. P. Rau, J. Phys. A: Math. Theor. 42, 175203 (2009).	`J. Phys` identified as part of author and hence not only author got wrong, publication got unrecognizable
1	1987JPhA...20.3347K	-- J. Kobus, J. Karwowski and W. Jaskolski, J. Phys. A: Math. Gen. 20, 3347-3352 (1987).	
1	1991JPhB...24.4479S	-- V.M. Shabaev, J. Phys. B: At. Mol. Opt. Phys. 24, 4479-4488 (1991).	Service parses the following reference correctly, because there is no token that could be mistaken as first initial
1	1997JPhB...30.4435A	-- D. Andrae, J. Phys. B: At. Mol. Opt. Phys. 30, 4435-4451 (1997).	N. D. Mermin and H. Wagner, Phys. Rev. Lett. 17, 1133 (1966)
1	2005JPhB...38.2211D	-- S.-H. Dong, C.-Y. Chen and M. Lozada-Cassou, J. Phys. B: At. Mol. Opt. Phys. 38, 2211-2220 (2005).	
1	1997JPhB...30..825S	-- R. Szymtkowski, J. Phys. B 30, 825-861 (1997).	
1	2009JPhB...42r5003S	-- S.K. Suslov, J. Phys. B: At. Mol. Opt. Phys. 42, 185003 (2009).	
1	2010JPhB...43g4006S	-- S.K. Suslov, J. Phys. B: At. Mol. Opt. Phys. 43, 074006 (2010).	