

Cat Scan & Reference Search

Josh Peters
Update for 2023



Topics

- Reference Search
- Cat Scan
- Exciting Possibilities
- Questions





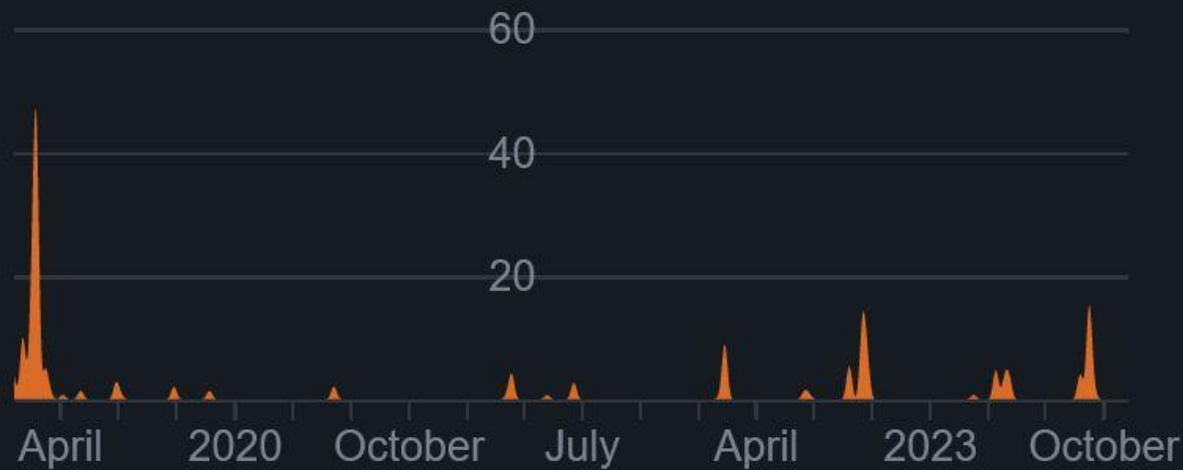
Code Contributions



joshpme

#1

246 commits 198,166 ++ 103,543 --



Reference Search

<https://refs.jacow.org/>

What is it?

Widely used free web application for **authors** and **editors**

Outputs **LaTeX** / **BibTeX** and **Word** references in the **JACoW** format

Search index of all published and unpublished **JACoW** papers (~76,000)

Indexes for **unpublished** papers including for the **current conference**

Reference Search

JACoW

Search

Authors

Conferences

★ Favourites

Login

Register

Search References

Search Terms (e.g. Author, Paper Title, Conference)

Format type

Mass Spectrometry France

Bibitem

Search

Results



```
%\cite{Hotchkis:ECRIS10-TUCOCK04}
\bibitem{Hotchkis:ECRIS10-TUCOCK04}
  M. A. C. Hotchkis and D. Button,
  \textquotedblleft{Mass Spectrometry with an ECR Ion Source}\textquotedblright,
  in \emph{Proc. ECRIS'10}, Grenoble, France, Aug. 2010, paper TUCOCK04, pp. 109--110.
```



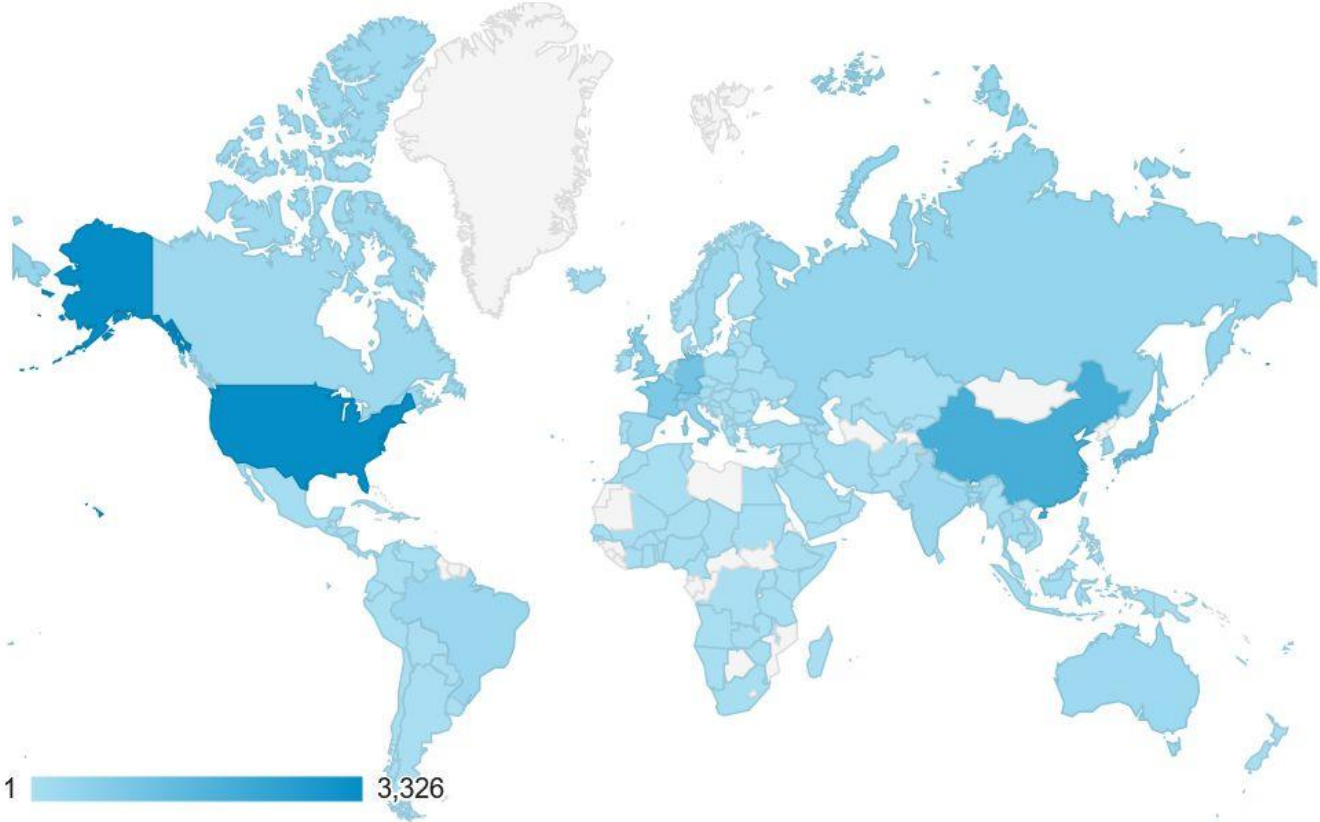
```
%\cite{Kutschera:EPAC00-WEYF101}
\bibitem{Kutschera:EPAC00-WEYF101}
  W. Kutschera,
  \textquotedblleft{Accelerator Mass Spectrometry at VERA}\textquotedblright,
  in \emph{Proc. EPAC'00}, Vienna, Austria, Jun. 2000, paper WEYF101, pp. 245--252.
```



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%\cite{Beckert:EPAC98-WEOA02A}
\bibitem{Beckert:EPAC98-WEOA02A}
  K. Beckert \emph{et al.},
  \textquotedblleft{Performance of Schottky Mass Spectrometry at the ESR}\textquotedblright,
  in \emph{Proc. EPAC'98}, Stockholm, Sweden, Jun. 1998, paper WEOA02A, pp. 256--258.
```

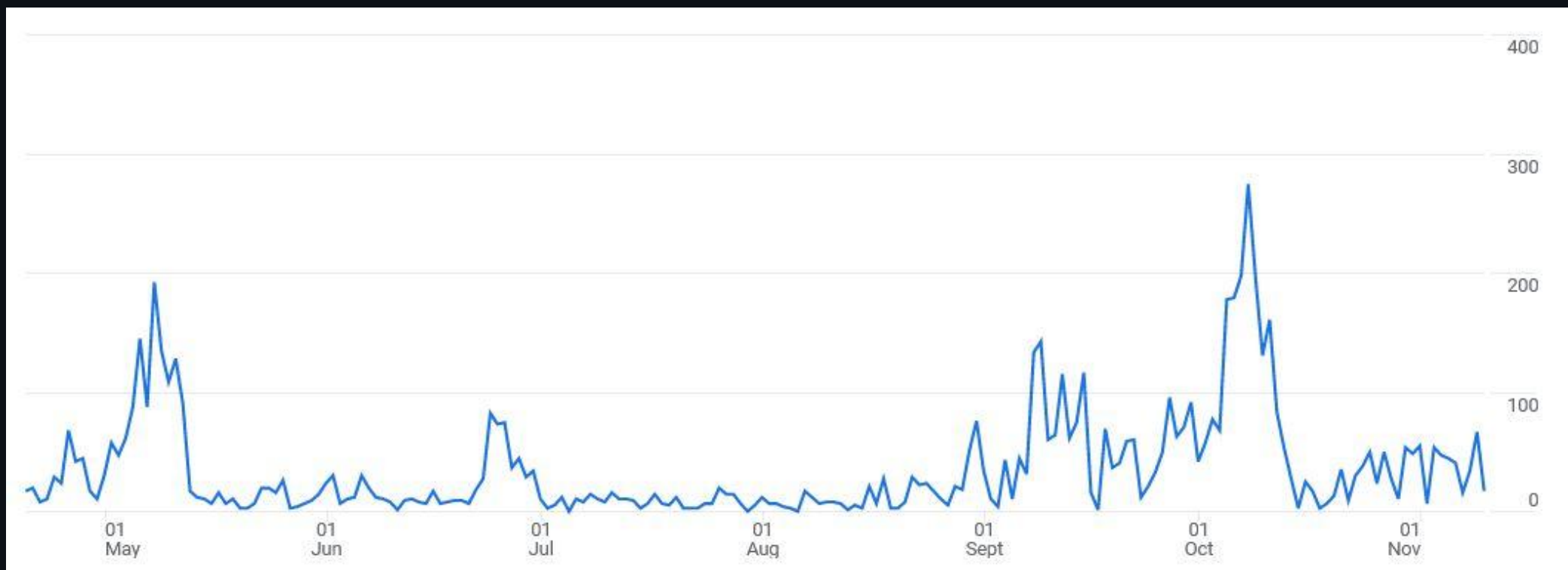
Usage Statistics

1.	 United States	3,326 (22.33%)
2.	 China	2,004 (13.46%)
3.	 Japan	1,163 (7.81%)
4.	 Germany	1,128 (7.57%)
5.	 France	892 (5.99%)
6.	 Switzerland	594 (3.99%)
7.	 United Kingdom	589 (3.95%)
8.	 Italy	550 (3.69%)
9.	 Russia	423 (2.84%)
10.	 South Korea	325 (2.18%)
11.	 Brazil	312 (2.09%)
12.	 India	305 (2.05%)
13.	 Australia	262 (1.76%)
14.	 Spain	251 (1.69%)
15.	 Canada	225 (1.51%)
16.	 Sweden	197 (1.32%)
17.	 Thailand	193 (1.30%)
18.	 Taiwan	142 (0.95%)
19.	 Netherlands	104 (0.70%)
20.	 Poland	94 (0.63%)



Unique users over the last 3 years (as defined by google analytics)

Homepage visits - Last 6 months



Recent improvements



Recent Improvements

Performance overhaul

Feedback form

Better search

Improved data

Performance Overhaul

Slow Performance

Page load time

1-10 seconds

Search

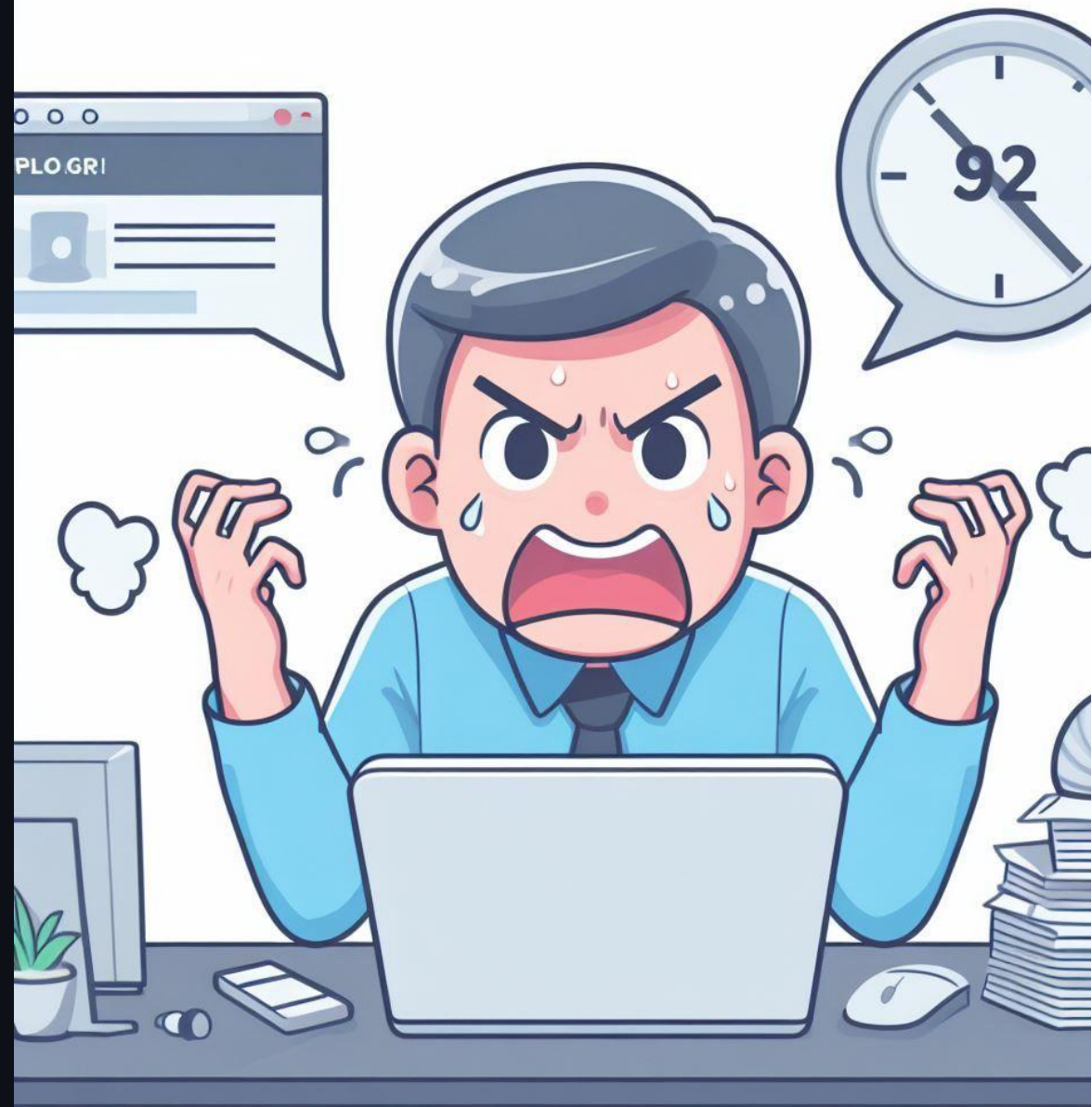
Under 10 concurrent users

Avg response > 5 seconds

Server costs

Maxing out sponsorship from
ANSTO

Results from July 2023 (was likely the case during IPAC'23)



Changes

Fix bugs with DOI lookups repeating on old papers

Remove lookups for past conferences

Offloaded search to a third party

Fixed indexes on database

Changed the way website lookups work



Fast Performance!

Page load time

100x faster

Search now

Over 100 concurrent users

Avg response < 1 second

Server costs

Halved!

Measured November 2023



Feedback Form

Why Errors?

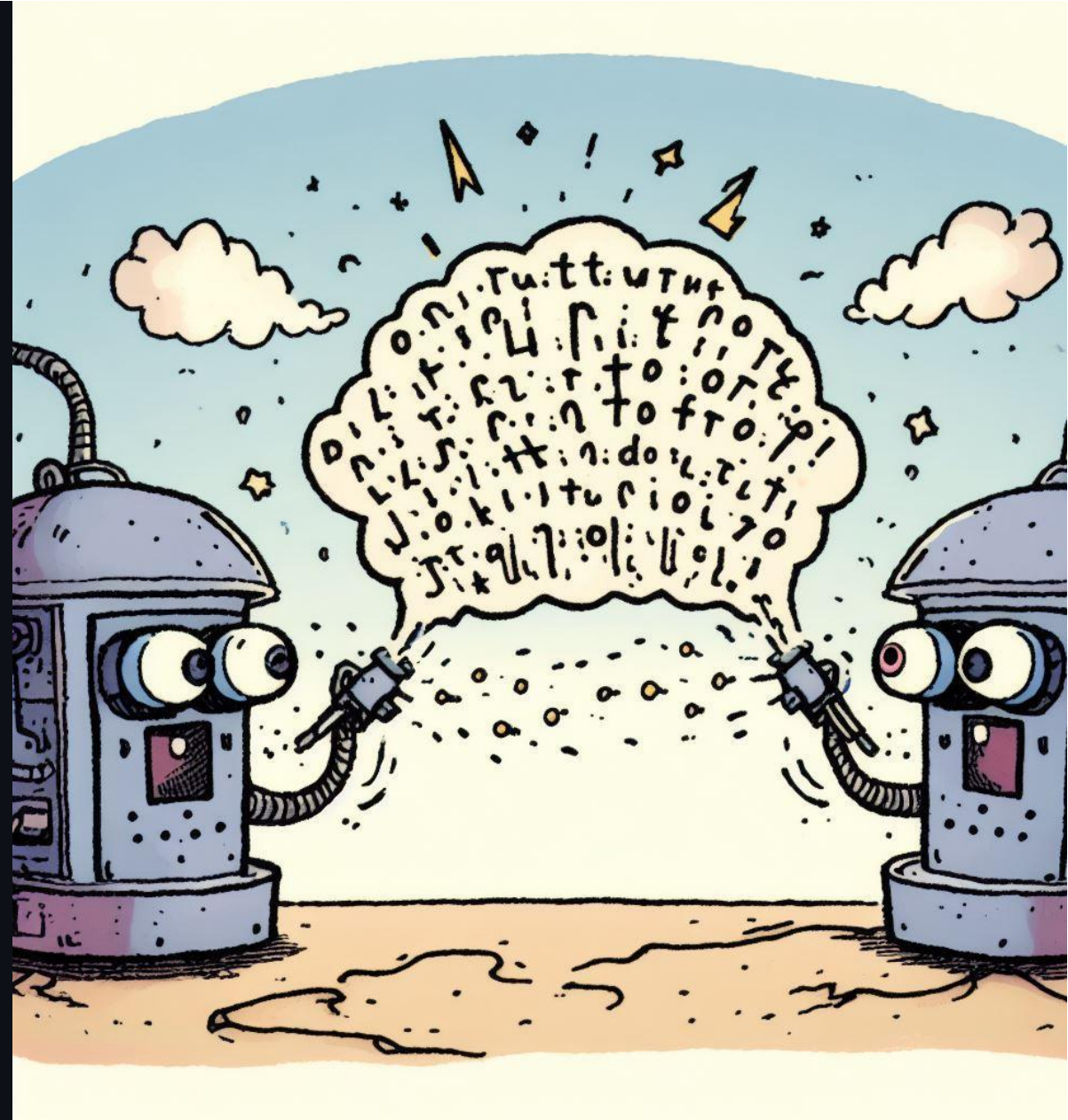
Data transfer between systems not perfect

Initial import best-effort from website

Limited administration resources

Common issues

- Incorrect author order
- Special characters
- Missing data



☆ Reference

[? Fix a problem](#)

For Word

```
[n] .K. Avasthi, D. Kanjilal, and G. K. Mehta, "Materials Modification with Swifts Heavy Ions", in Proc. APAC'98, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801-803.
```

For LaTeX

```
%\cite{Avasthi:APAC98-6D052}  
\bibitem{Avasthi:APAC98-6D052}  
 .K. Avasthi, D. Kanjilal, and G. K. Mehta,  
 \textquotedblleft{Materials Modification with Swifts Heavy Ions}\textquotedblright,  
 in \emph{Proc. APAC'98}, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801--803.
```

For BibTeX

```
@inproceedings{avasthi:apac98-6d052,  
  author = {.K. Avasthi and D. Kanjilal and G. K. Mehta},  
  title = {{Materials Modification with Swifts Heavy Ions}},  
  booktitle = {Proc. APAC'98},  
  pages = {801--803},  
  paper = {6D052},  
  venue = {Tsukuba, Japan, Mar. 1998},  
  publisher = {JACoW Publishing, Geneva, Switzerland},
```


For Word

[1] .K. Avasthi, D. Kanjilal, and G. K. Mehta, "Materials Modification with Swifts Heavy Ions", in *Proc. APAC'98*, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801-803.

For LaTeX

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For BibTeX

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  author = {.K. Avasthi and D. Kanjilal and G. K. Mehta},  
  title = {{Materials Modification with Swifts Heavy Ions}},  
  booktitle = {Proc. APAC'98},  
  pages = {801--803},  
  paper = {6D052},  
  venue = {Tsukuba, Japan, Mar. 1998},  
  publisher = {JACoW Publishing, Geneva, Switzerland},
```

MATERIALS MODIFICATION WITH SWIFTS HEAVY IONS

D.K.Avasthi, D.Kanjilal and G.K.Mehta

Nuclear Science Centre, Post Box 10502, New Delhi-110067, India

Abstract

Swift Heavy Ions (SHI) of various species in the energy range of 50 MeV to 250 MeV provided by the 15 million volt Pelletron at NSC are being used for materials modification and characterization. Irradiation of materials at these high energies gives rise to highly excited states of lattice atoms with negligible contribution from elastic collisions. Atomic displacements and structural modifications of such a lattice due to deexcitation process are studied. SHI induced defects in semiconductors and modification of electrical characteristics are investigated. SiC formation at the interface has been observed due to electronic excitation induced ion beam mixing. SHI irradiation of organic crystals show significant changes in dielectric constant providing a possibility of making buried optical wave guide structures. Ion track diameters have been estimated from the monitoring of hydrogen release, using Elastic

solidifies. Beyond certain threshold of electronic energy deposition, such ion track formation has also been observed in metals [3-5]. Swift heavy ions at NSC Pelletron [6] are being used [7] to probe into exotic effects of large electronic excitation in different types of materials e.g. metals, semiconductors, superconductors, polymers, organic crystals etc. The salient features have been defect production and annealing of defects in semiconductors, flux pinning in high T_c superconductors, desorption of H in polymers, ion beam mixing in the metal/Si interface and optical waveguide formation. The swift heavy ions are also used for on-line monitoring of light elements by elastic recoil detection (ERD) [8]. The present paper gives a brief account of these studies.

2 ELECTRONIC EXCITATION INDUCED MIXING AT INTERFACE

The ion beam mixing is widely used for generating new phases specially silicides with the help of low energy ion

Goals

Enable the author or editor to fix the issue

Minimal administrative work

Short resolution time

Encourage future adjustments





Changes

Fix the editor registration process

Make a better feedback form

Notify administrators (who want to receive notifications)

Allow a 1 step process to apply changes

Send an email to the user who supplied the feedback

What is the problem?



Please address or describe the issue below.

Title

Materials Modification with Swifts Heavy Ions

Author

D. K. Avasthi, D. Kanjilal, and G. K. Mehta

pp.

801-803

DOI (excluding doi: prefix)

If other issue (please describe)

Your contact email address (optional)

jdp@ansto.gov.au

Cancel

Submit

Feedback provider

1. Fixes problem
2. Sends feedback
3. Receives receipt

Your feedback has been sent to our administrators. Thank you.

Please note: We have recently received feedback indicated that this reference may have a problem.

☆ Reference

[🔗 Fix a problem](#)

For Word

[n] K. Avasthi, D. Kanjilal, and G. K. Mehta, "Materials Modification with Swifts Heavy Ions", in *Proc. APAC'98*, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801-803.

For LaTeX

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%\cite{Avasthi:APAC98-6D052}
\bibitem{Avasthi:APAC98-6D052}
.K. Avasthi, D. Kanjilal, and G. K. Mehta,
\textquotedblleft{Materials Modification with Swifts Heavy Ions}\textquotedblright,
in \emph{Proc. APAC'98}, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801--803.
```

For BibTeX

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@inproceedings{avasthi:apac98-6d052,
  author = {.K. Avasthi and D. Kanjilal and G. K. Mehta},
  title = {{Materials Modification with Swifts Heavy Ions}},
  booktitle = {Proc. APAC'98},
  pages = {801--803},
  paper = {6D052},
  year = {1998},
  month = {Mar},
  location = {Tsukuba, Japan}}
```

Administrator

1. Gets email
2. Reviews feedback
3. Resolves issue

The logo for JACOW.org, featuring the text "JACOW.org" in a bold, blue, sans-serif font. The "O" in "JACOW" is stylized with a white center.

New Feedback Item

For reference:

.K. Avasthi, D. Kanjilal, and G. K. Mehta, "Materials Modification with Swifts Heavy Ions", in *Proc. 1st Asian Particle Accelerator Conf. (APAC'98)*, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801-803.

Author:

From: K. Avasthi, D. Kanjilal, and G. K. Mehta

To: D. K. Avasthi, D. Kanjilal, and G. K. Mehta

[View Feedback](#)

Reference Search

Feedback

From: jdp@ansto.gov.au

For reference:

.K. Avasthi, D. Kanjilal, and G. K. Mehta, "Materials Modification with Swifts Heavy Ions", in *Proc. 1st Asian Particle Accelerator Conf. (APAC'98)*, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801-803.

Change Author

.K. Avasthi, D. Kanjilal, and G. K. Mehta -> D. K. Avasthi, D. Kanjilal, and G. K. Mehta

« Back to list

Edit Reference

Mark as Resolved

Apply Suggestions

Can just click "Apply Suggestions" if they are correct

Reference Search

JACOW.org

[Search](#) [Authors](#) [Conferences](#) [★ Favourites](#) [Feedback](#) [Users](#) [Logout](#)

Feedback applied.

Feedback

From: jdp@ansto.gov.au

For reference:

[D. K. Avasthi, D. Kanjilal, and G. K. Mehta, "Materials Modification with Swifts Heavy Ions", in *Proc. 1st Asian Particle Accelerator Conf. \(APAC'98\)*, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801-803.](#)

[« Back to list](#)

Reference updates!

And receipt sent to user!



Feedback Received

Thank you for your feedback we have applied your changes on the following reference.

D. K. Avasthi, D. Kanjilal, and G. K. Mehta, "Materials Modification with Swifts Heavy Ions", in *Proc. 1st Asian Particle Accelerator Conf. (APAC'98)*, Tsukuba, Japan, Mar. 1998, paper 6D052, pp. 801-803.

Better Search

Existing Search

Inputting search terms was slow

Search execution was slow

Process of using search results was slow

Results were not great

Best results came from navigation over searching





Changes

Allow multiline searching

Use external search provider to offload searching

Provide the external search provider with a series of synonyms for the conference names and other key abbreviations

Output search results directly to the user in the format they specify

Replace homepage with new search

of induced current in the superconductor increases, the induced current becomes more located closer to the center of the bulk, and when the entire bulk is filled with the shielding current, the undulator field saturates.

The experimental saturation characteristics are close to those predicted for about 5 k/mm² at a temperature of 20 K, and about 10 kA/mm² at 10 and 7 K. These critical current densities are consistent with the results of critical current characteristic measurements performed by PPMS for a small specimen [7].

For comparison with undulators using permanent magnets and superconducting wires, the magnetic field strength of various undulators with the horizontal axis as gap/period is shown in Fig. 6. The 2.22 T obtained at 7 K is approximately 3.1 times higher than the 0.71 T that can be generated by a cooled hybrid-type permanent magnet undulator, indicating that the Bulk HTS SAU can generate a much stronger period alternating magnetic field than conventional technologies. It also has an advantage of more than 25% over the superconducting wire type [9, 10]. Considering the advantages of small cold mass and significantly higher operating temperature than 4.2 K, the

7 K with a period of 10 mm and a gap of 4 mm. The results of the experiment show that the bulk superconductor has high potential as an insertion device for future light sources.

ACKNOWLEDGEMENTS

This work was supported by KAKENHI 17H01127, JP22H03870 and Research Center for Low Temperature and Materials Sciences, Kyoto University.

REFERENCES

- [1] T. Kii *et al.*, “Design study on high-TC superconducting micro-undulator”, in *Proc. 28th Int. Free Electron Laser Conf. (FEL'06)*, pp. 653-655, 2006.
- [2] R. Kinjo *et al.*, “A bulk high-TC superconductor staggered array undulator”, in *Proc. 30th Int. Free Electron Laser Conf. (FEL'08)*, pp.473-476, 2008.
- [3] T. Kii *et al.*, “Proposal of a bulk HTSC staggered array undulator”, *AIP Conf. Proc. (SRI'09)*, vol. 1234, pp. 539-542, 2010. doi:10.1063/1.3463261
- [4] R. Kinjo *et al.*, “Demonstration of a high-field short-period undulator using bulk high-temperature superconductor”,

Reference Search

Search References

Search Terms (e.g. Author, Paper Title, Conference)

T. Kii et al., "Design study on high-TC superconducting micro-undulator", in Proc. 28th Int. Free Electron Laser Conf. (FEL'06), pp. 653-655, 2006.

Format type

Word

Search

Results

- ☆ [n] T. Kii *et al.*, "Design Study on High-Tc Superconducting Micro-Undulator", in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper THPPH035, pp. 653-655.
- ☆ [n] C. Spezzani *et al.*, "Free Electron Laser Study of Free Carbon Clusters", in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper TUPPH044, pp. 423-426.
- ☆ [n] W. B. Colson, J. Blau, and A. Kampouridis, "Free Electron Lasers in 2006", in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper THPPH071, pp. 756-760.
- ☆ [n] M. Nakano *et al.*, "Magnetic Field Measurement of the Undulator in KU-FEL", in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper THPPH037, pp. 660-663.
- ☆ [n] K. Masuda *et al.*, "Design Study of RF Triode Structure for the KU-FEL Thermionic RF Gun", in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper THPPH036, pp. 656-659.
- ☆ [n] T. Kii *et al.*, "Design Study on THz Seeded FEL Using Photocathode RF Gun and Short Period Undulator", in *Proc. FEL'08*, Gyeongju, Korea, Aug. 2008, paper TUAU03, pp. 196-199.
- ☆ [n] H. Zen *et al.*, "Experimental Study on Effect of Energy Distribution on Transverse Phase Space Tomography", in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper THPPH039, pp. 668-671.
- ☆ [n] F. Curbis, G. De Ninno, and H. Freund, "Coherent Harmonic Emission of the Elettra Storage-Ring Free-Electron Laser in Single-Pass Configuration: a Numerical Study for Different Undulator Polarizations", in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper MOPPH055, pp. 170-173.

bulk, and when the entire bulk is filled with the shielding current, the undulator field saturates.

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insertion device for future light sources.

ACKNOWLEDGEMENTS

This work was supported by KAKENHI 17H01127, JP22H03870 and Research Center for Low Temperature and Materials Sciences, Kyoto University.

REFERENCES

- [1] T. Kii *et al.*, “Design Study on High-Tc Superconducting Micro-Undulator”, in *Proc. FEL'06*, Berlin, Germany, Aug.-Sep. 2006, paper THPPH035, pp. 653-655.
- [2] R. Kinjo *et al.*, “A bulk high-TC superconductor staggered array undulator”, in *Proc. 30th Int. Free Electron Laser Conf. (FEL'08)*, pp.473-476, 2008.
- [3] T. Kii *et al.*, “Proposal of a bulk HTSC staggered array undulator”, *AIP Conf. Proc. (SRI'09)*, vol. 1234, pp. 539-542, 2010. doi:10.1063/1.3463261
- [4] R. Kinjo *et al.*, “Demonstration of a high-field short-period undulator using bulk high-temperature superconductor”, *Appl. Phys. Express*, vol. 6, no. 4, p 042701, 2013. doi:10.7567/APEX.6.042701


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420 \bibitem{sbs} R. Tom\ 'as {\it et al.}, \textquotedblleft{LHC optics model, measurements and corrections}\textquotedblright,
421 Phys. Rev. ST Accel. Beams {\bf13}, 121004 (2010).
422
423
424 \bibitem{leonFCCIS} L. Van Riesen-Haupt, \textquotedblleft{IP tuning}\textquotedblright, FCCIS 2022 Workshop, 5 Dec. 2022.
425 \url{https://indico.cern.ch/event/1203316/}
426
427 \bibitem{esmaeil} E. Ahmadi, \textquotedblleft{Update on Field quality tolerances}\textquotedblright, FCC-ee tuning WG meeting, 17 March 2023.
428 %https://indico.cern.ch/event/1265820/
429
430 \bibitem{bauche} J. Bauche, \textquotedblleft{Magnet designs of FCC-ee collider Update with new inter-beam distance}\textquotedblright, FCC-ee tuning WG meeting, 2
431
432 \bibitem{crisobal2} C. Garc\u{a}ia-Jaimes, {\it et al.}, \textquotedblleft{Impact of Dipole Quadrupolar Errors in FCC-ee}\textquotedblright, IPAC 2023, these proced
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437 \bibitem{koratzinos} M. Koratzinos, {\it et al.},
438 \textquotedblleft{Magnetic measurements at warm of the first FCC-ee Final Focus quadrupole prototype}\textquotedblright, IPAC 2021.
439 \url{https://accelconf.web.cern.ch/ipac2021/papers/thpab013.pdf}
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443 \bibitem{eefactoptics} J. Keintzel, {\it et al.}, \textquotedblleft{FCC-ee Lattice design}\textquotedblright, 65th ICFA Adv. Beam Dyn. Workshop High Luminosity Cir
444
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448 % \bibitem{keintzel_bba_ipac2023}
449 % J. Keintzel, {\it et al.}, \textquotedblleft{Beam based alignment techniques for FCC-ee optics tuning and measurements}\textquotedblright, in Proc. IPAC'2
450
451 \bibitem{torFCCIS} T. Raubenheimer, \textquotedblleft{Preliminary budget of alignment tolerances and time scales}\textquotedblright, FCCIS 2022 Workshop, 5 Dec. 2
452 \url{https://indico.cern.ch/event/1203316/}
453
454 \bibitem{review} R. Tom\ 'as, {\it et al.}, \textquotedblleft{Review of linear optics measurement and correction for charged particle accelerators}\textquotedblright
```

Search References

Search Terms (e.g. Author, Paper Title, Conference)

```
\bibitem{koratzinos} M. Koratzinos, {\it et al.},  
\textquotedblleft{Magnetic measurements at warm of the first  
FCC-ee Final Focus quadrupole prototype}\textquotedblright,  
IPAC 2021.  
\url{https://accelconf.web.cern.ch/ipac2021/papers  
/thpab013.pdf}
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Format type

BibItem

Search

Results



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%\cite{Koratzinos:IPAC21-THPAB013}  
\bibitem{Koratzinos:IPAC21-THPAB013}  
M. Koratzinos, G. Kirby, M. Liebsch, and C. Petrone,  
\textquotedblleft{Magnetic Measurements at Warm of the First FCC-ee Final Focus Quadrupole  
Prototype}\textquotedblright,  
in \emph{Proc. IPAC'21}, Campinas, Brazil, May 2021, pp. 3777--3780.  
\url{doi:10.18429/JACoW-IPAC2021-THPAB013}
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%\cite{Koratzinos:IPAC21-THPAB012}
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420     \bibitem{sbs} R. Tom'as {\it et al.}, \textquotedblleft{LHC optics model, measurements and corrections}\textquotedblright,
421 Phys. Rev. ST Accel. Beams {\bf13}, 121004 (2010).
422
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424 \bibitem{leonFCCIS} L. Van Riesen-Haupt, \textquotedblleft{IP tuning}\textquotedblright, FCCIS 2022 Workshop, 5 Dec. 2022.
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427 \bibitem{esmaeil} E. Ahmadi, \textquotedblleft{Update on Field quality tolerances}\textquotedblright, FCC-ee tuning WG meeting, 17 March 2023.
428 %\url{https://indico.cern.ch/event/1265820/}
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430 \bibitem{bauche} J. Bauche, \textquotedblleft{Magnet designs of FCC-ee collider Update with new inter-beam distance}\textquotedblright, FCC-ee tuning W
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432 \bibitem{cristobalb2} C. Garc'ia-Jaimes, {\it et al.}, \textquotedblleft{Impact of Dipole Quadrupolar Errors in FCC-ee}\textquotedblright, IPAC 2023,
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437 \bibitem{koratzinos} M. Koratzinos, G. Kirby, M. Liebsch, and C. Petrone,
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439 in \emph{Proc. IPAC'21}, Campinas, Brazil, May 2021, pp. 3777--3780.
440 \url{doi:10.18429/JACoW-IPAC2021-THPAB013}
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443 \bibitem{eefactoptics} J. Keintzel, {\it et al.}, \textquotedblleft{FCC-ee Lattice design}\textquotedblright, 65th ICFA Adv. Beam Dyn. Workshop High L
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448 % \bibitem{keintzel_bba_ipac2023}
449 % J. Keintzel, {\it et al.}, \textquotedblleft{Beam based alignment techniques for FCC-ee optics tuning and measurements}\textquotedblright, in
450
451 \bibitem{torFCCIS} T. Raubenheimer, \textquotedblleft{Preliminary budget of alignment tolerances and time scales}\textquotedblright, FCCIS 2022 Works
452 \url{https://indico.cern.ch/event/1203316/}
453
454 \bibitem{review} R. Tom'as, {\it et al.}, \textquotedblleft{Review of linear optics measurement and correction for charged particle accelerators}\text
```

Improved Data

Improved data

~15,000 more references now
with complete data (~20%)

Improvements include

- Missing page numbers
- Incorrect author order
- Incorrect author abbreviation
- Titles including information like (invited talk etc.)
- Missing conferences





What's next?

New import form for new proceedings format

More supported formats

Automate fresh data (directly from indico)

- Including conferences, papers

Improved data for catalogue

- About 20% of records needs work

Single Sign On

- Using the new indico sign in

Security Patching

Cat Scan

<https://scan.jacow.org/>

What is Cat Scan?

Widely used free web application for **authors** and **editors**

It automates the checking of **JACoW specific formatting** requirements on conference papers

It performs a large number of checks on **Word** papers

And a small number of checks on **LaTeX** papers

Cat Scan

JACoW.org

Validator

Resources

Report for WEC1C1.docx

[Cat Scan Word Validator - Help and Usage Guidelines](#)

Score

Overall

182 Ok

46 Warnings

24 Errors

▼ Show all scores

Errors

Paragraphs

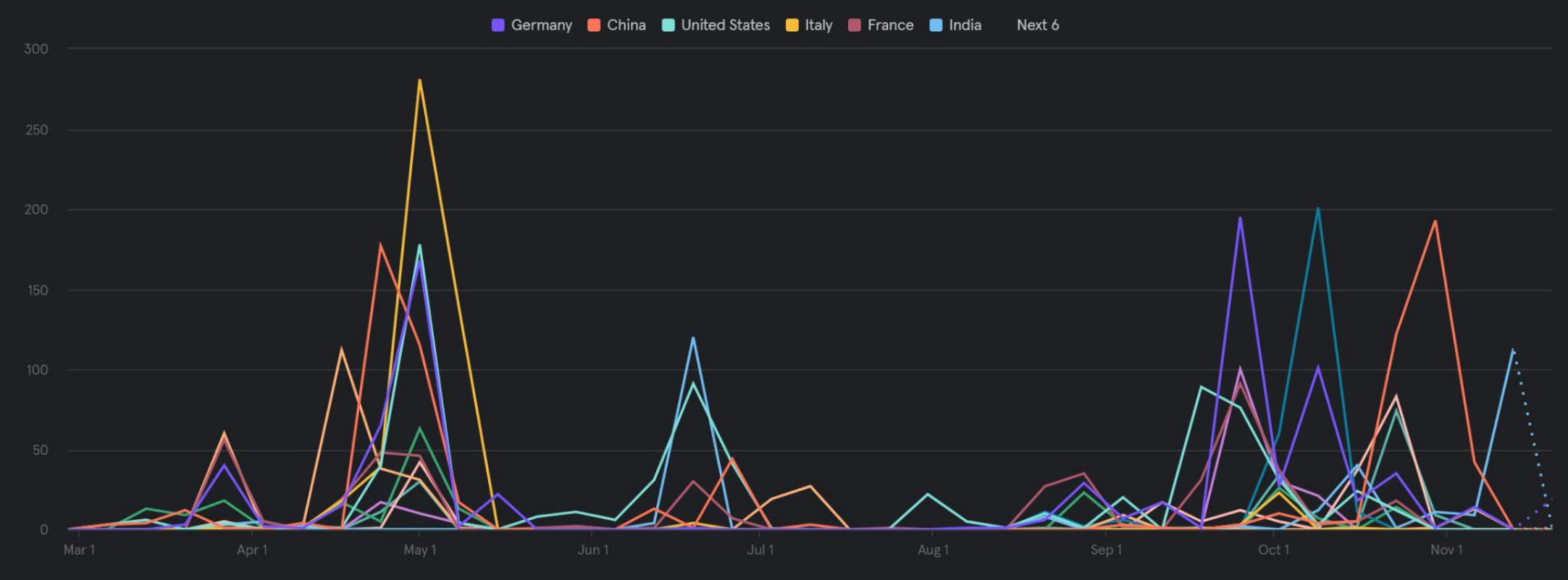
Help

Rules for Paragraphs

▼ Style Breakdown for Paragraphs

Text	Style						Ok
	Text Style Name	Alignment	First Line_indent	Font Size	Space After	Space Before	
The High Intensity Proton Accelerator (HIPA) at PSI delivers a continuous proton beam of up to 2.4 mA with a maximum energy of 590 MeV to two meson production targets, M and E, and then to the SINQ sp	Body Text Indent	JUSTIFY	9.35	10	None	None	✓
Based on years of operating experience with this graphite cavity, improvements to the design have been considered, including refining beam position pickups, implementing online calibration methods, an	Body Text Indent	JUSTIFY	9.35	10	None	None	✓
The HIPA can generate up to 1.4 MW continuous proton beam [1]. After the main cyclotron extraction, the beam is transported through a 60 m long beam line with two graphite target stations, TM and TE f	Body Text Indent	JUSTIFY	9.35	10	None	None	✓
A proton beam current monitor, called MHC5, is located 8 meters downstream of target E in the high-energy beam line of HIPA. It is a	Body Text Indent	JUSTIFY	9.35	10	None	None	✓

Usage Statistics



Scans over the last 6 months by country



Recent Improvements

New architecture

Word scanner adjustments

New LaTeX scanner

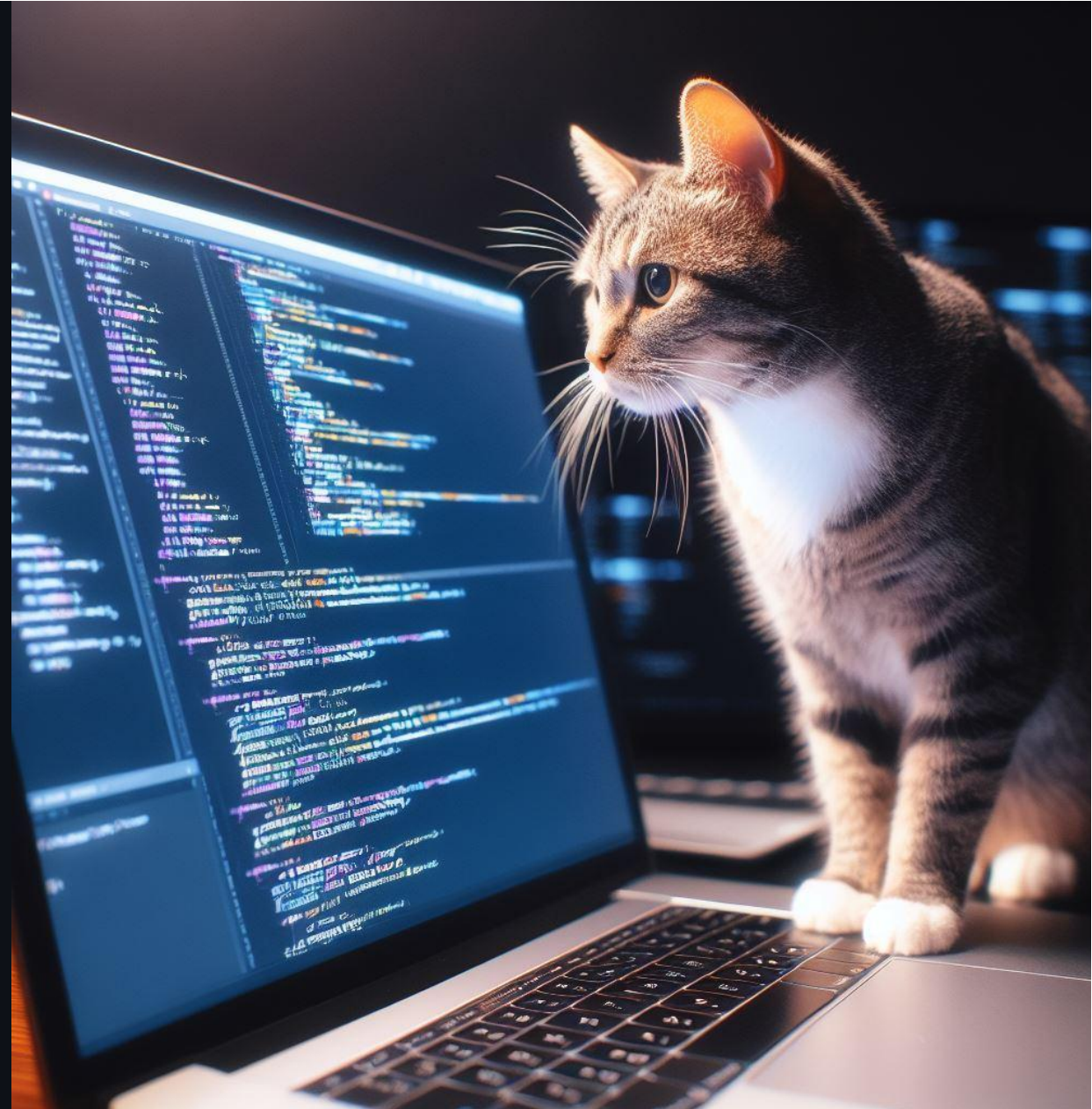
Goals

Expand and improve LaTeX functionality

Allow in situ editing of LaTeX papers

Preserve the Word Checks

Allow word checks to be performed at Scale (in a workflow)





Changes

Seperate Word from Frontend

Word scanner now runs as a
“microservice”

Create LaTeX editor interface

Create LaTeX checker backend

Update interface to align with other
JACoW sites

Adjust layout of Word results slightly to
prioritise Errors

New Interface

Slightly Different Branding

New upload mechanism*

Cat Scan

Validator Resources

Word and LaTeX Validator

Select a conference: (optional)
No conference selected

Upload a Word or LaTeX file

Drop a file here, or click to select a file
File must be PAPERID.docx or PAPERID.tex

Scan Paper



Cat Scan

Validator Resources

Report for WEC1C1.docx

[Cat Scan Word Validator - Help and Usage Guidelines](#)

Score

Overall

182 OK 45 Warnings 24 Errors

Show all scores

Errors

Paragraphs

Rules for Paragraphs

Style Breakdown for Paragraphs

Text	Style						
	Text Style Name	Alignment	First Line_indent	Font Size	Space After	Space Before	Ok
The High Intensity Proton Accelerator (HIPA) at PSI delivers a continuous proton beam of up to 2.4 mA with a maximum energy of 590 MeV to two meson production targets, M and F.	Body Text Indent	JUSTIFY	9.35	10	None	None	✓

Word Scanner Changes

Priority of the results

Collapsible “all score” list

Scalable infra - can be run at scale

Cat Scan

Validator Resources


Word and LaTeX Validator

Select a conference: (optional)
No conference selected

Upload a Word or LaTeX file

Drop a file here, or click to select a file
File must be PAPERID.docx or PAPERID.tex

Scan Paper



Cat Scan

Validator Resources

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Score

Overall

182 OK 45 Warnings 24 Errors

Show all scores

Errors

Paragraphs

Rules for Paragraphs

Style Breakdown for Paragraphs

Text	Style						
	Text Style Name	Alignment	First Line_indent	Font Size	Space After	Space Before	Ok
The High Intensity Proton Accelerator (HIPA) at PSI delivers a continuous proton beam of up to 2.4 mA with a maximum energy of 590 MeV to two meson production targets, M and F.	Body Text Indent	JUSTIFY	9.35	10	None	None	✓

LaTeX Scanner*

**Proof of Concept Stage*

Highlights errors in LaTeX papers
using the JACoW template

Allows editing in situ

Limited checks

Report for MOOG1.tex

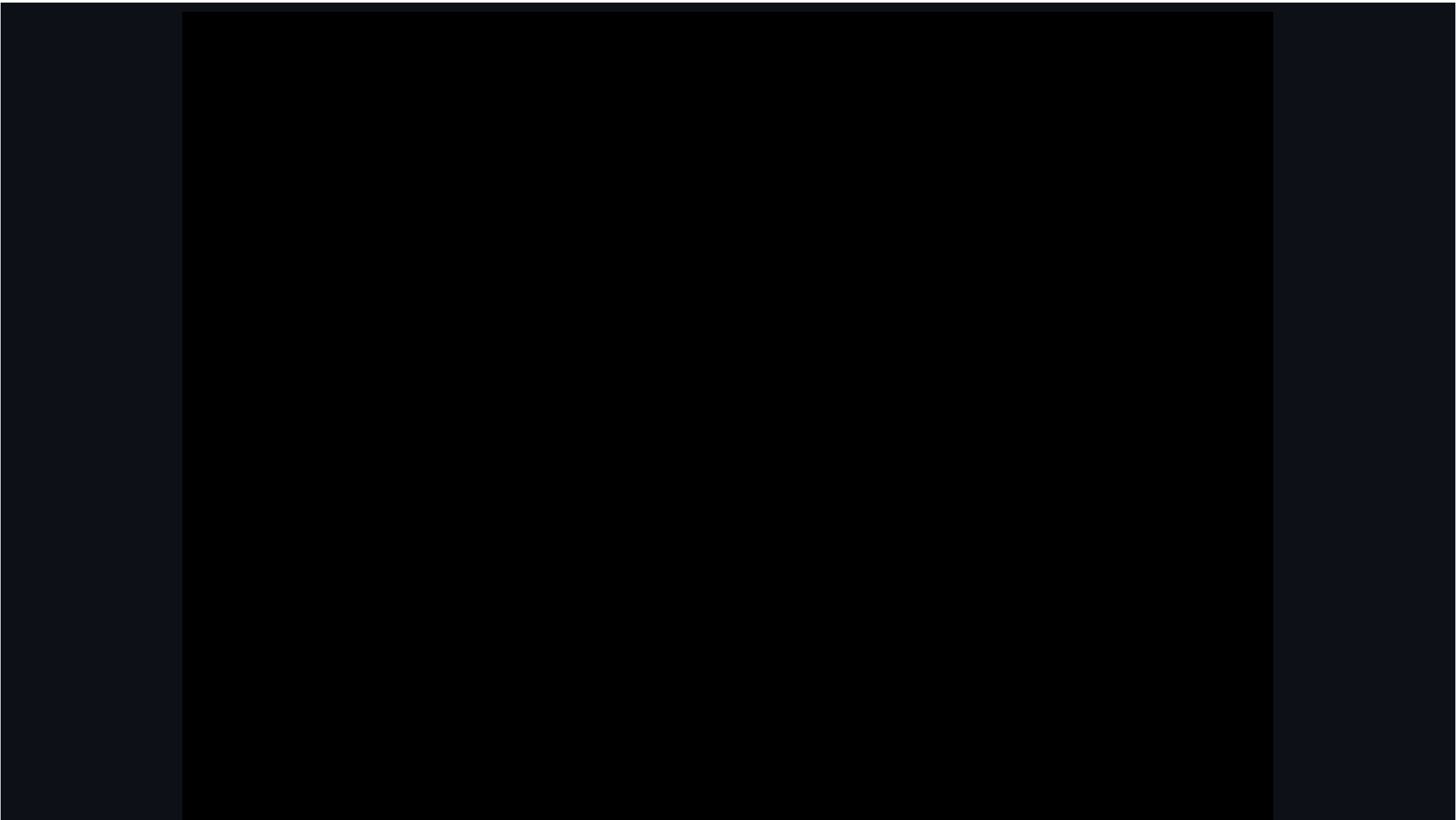
[Cat Scan LaTeX Validator - Help and Usage Guidelines](#)

Issue: I:
et al. not wrapped in `\textit{}` or `\emph{}` macro.
Before: **After:**
et al. → `\textit{et al.}`

Total issues: 22

[Previous](#) | [Next](#)

```
M. Ferrario et al.,  
\textit{"EuPRAXIA@SPARC\_LAB Design study towards a compact FEL facility at LNF"},  
Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated E  
909, pp. 134-138,  
doi:10.1016/j.nima.2018.01.094.  
  
\bibitem{CDR}  
D. Alesini et al.,  
\textit{"EuPRAXIA@SPARC\_LAB Conceptual Design Report"},  
INFN-18-03/LNF.  
  
\bibitem{Cgun}  
D. Alesini, et alet al.,  
\textit{"Progress on the new high gradient C Band standing wave RF photo-gun"}  
at the 14th Int. Particle Accelerator Conf. (IPAC23), Venice, Italy, May 2023, paper TUPA009, this conference.
```





What's next?

Word

*Fix issue with word paper upload

Refine existing tests to be more reliable

Prioritise errors

LaTeX

More checks

Improved editing

Reference suggestions

Exciting Possibilities

What is possible?

Template Generator

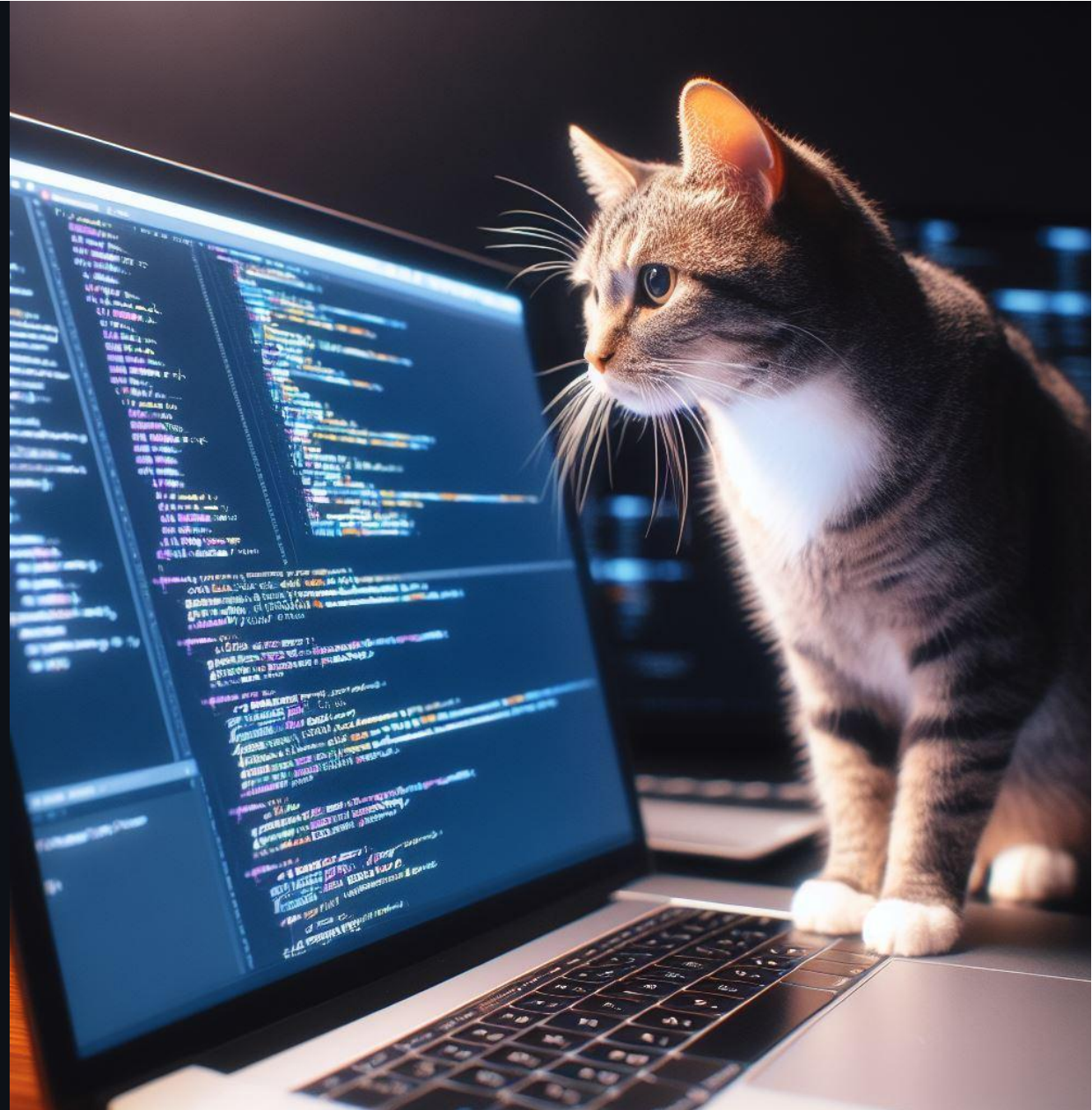
Automatic Scanner

Reference Suggestions



Goals

- ▲ Increase the quality of the submitted papers
- ▼ Decrease the trivial checks the editorial team needs spend time on

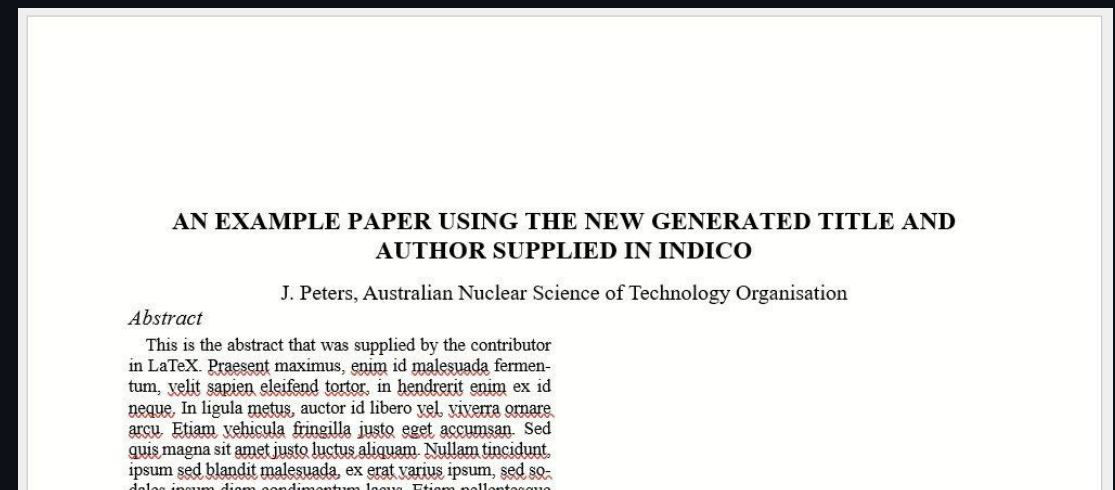
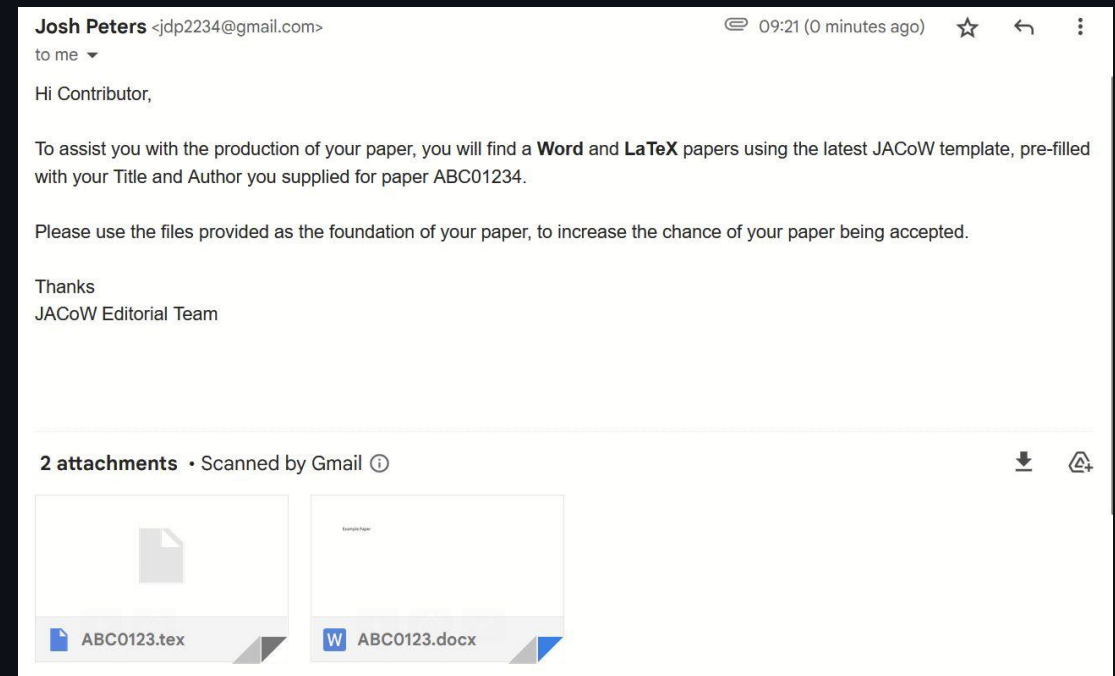


Template Generator

Trigger: Paper code generated

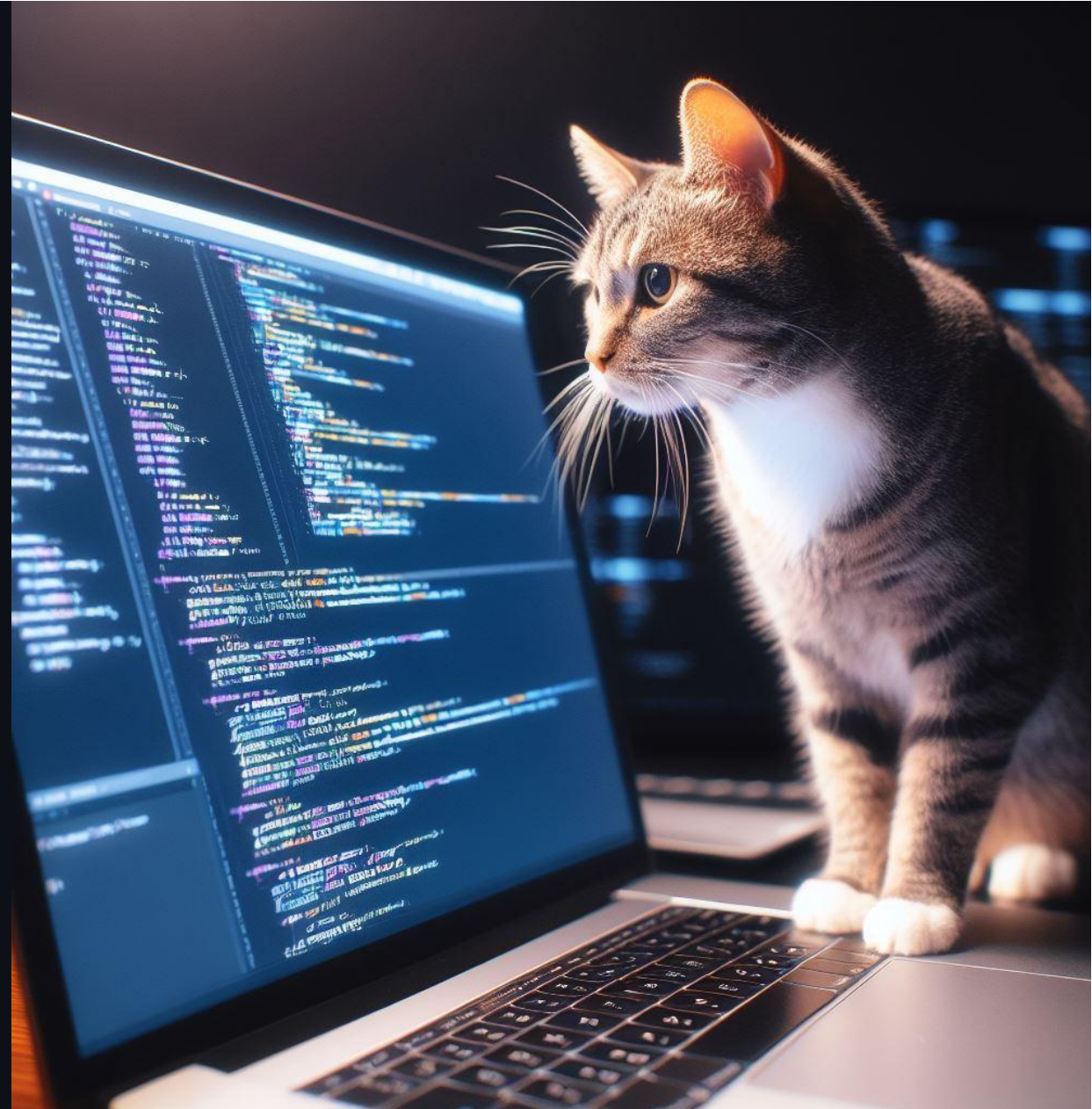
Action: Link to pre-generated template

- Paper Title
- Author list (with affiliations)
- Abstract
- Support



Goals

- ▲ Increase the feedback speed to contributors
- ▼ Decrease manual steps for each author



Automatic Cat Scan

Trigger: Upload file

Action: Comment added to indico

- Link to pre-generated report
- Email to contributor
- Special warnings with high priority issues

The screenshot displays two sections of an Indico interface. The top section, titled '#1 - Contributor Name has submitted files · 2 May 2023 14:55', includes a 'See original contribution' link and a table of submitted files. The table has three columns: 'BibTeX file (only for LaTeX papers)', 'PDF', and 'Source Files'. Under 'BibTeX file', it says 'No files uploaded'. Under 'PDF', there is a link 'TUYG1.pdf'. Under 'Source Files', there is a link 'TUYG1.docx'. Below the table, there is a section for 'Supporting files for papers' which also says 'No files uploaded'. A blue 'Download ZIP' button is located at the bottom of this section. The bottom section, titled 'Cat Scan Results · 4 May 2023 21:17', shows 'Over all results' with '4 Errors' and '12 Warnings'. To the right, there is a 'Full Report' section with a link 'ABC01234 CatScan Report'.

#1 - Contributor Name has submitted files · 2 May 2023 14:55 Hide

[See original contribution](#)

BibTeX file (only for LaTeX papers)	PDF	Source Files
<i>No files uploaded</i>	TUYG1.pdf	TUYG1.docx

Supporting files for papers

No files uploaded

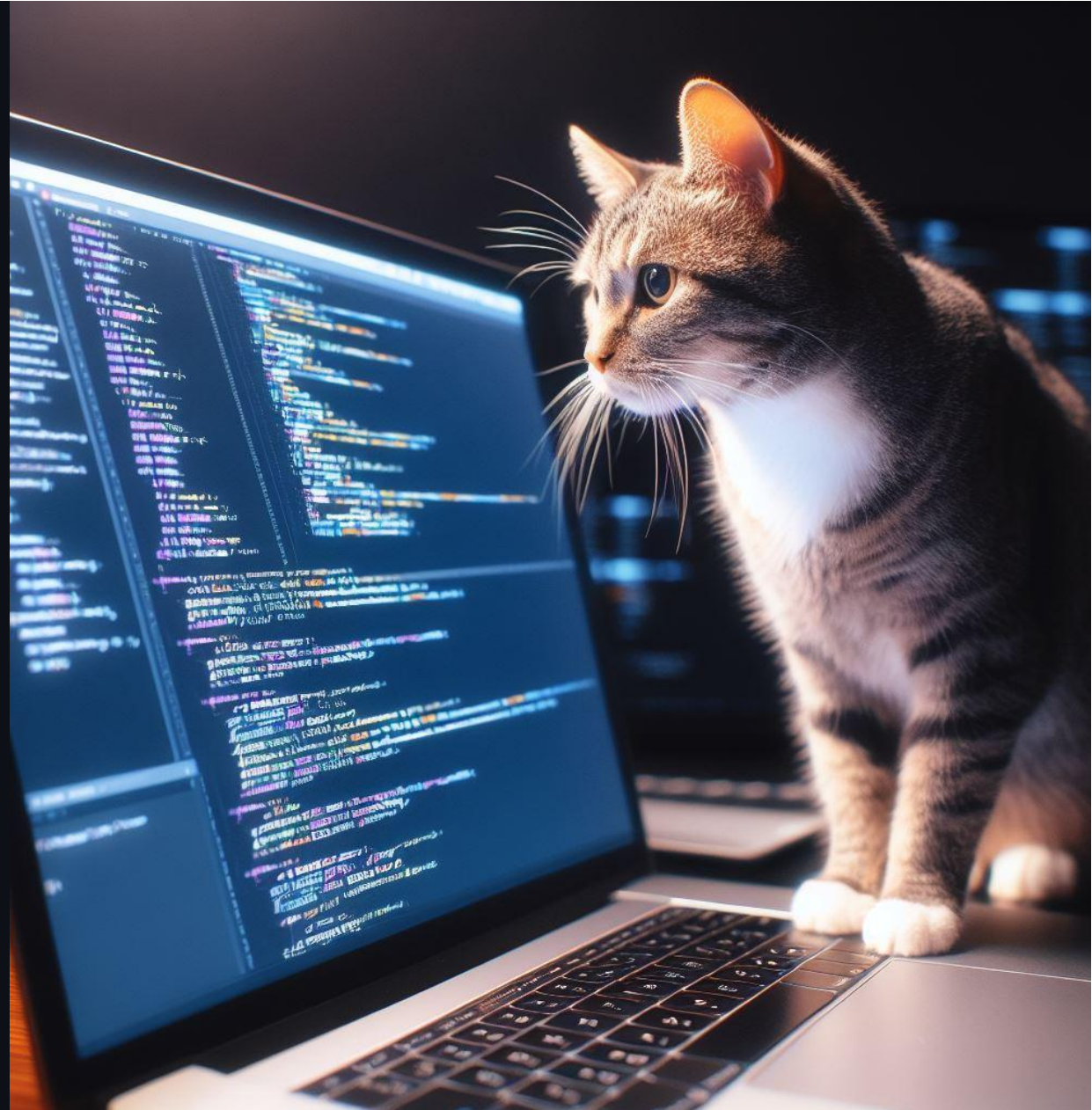
[Download ZIP](#)

Cat Scan Results · 4 May 2023 21:17

Over all results	Full Report
4 Errors 12 Warnings	ABC01234 CatScan Report

Goals

- ▲ Increase the quality of the references
- ▼ Decrease manual steps for each author and editor to update references



Reference Suggestions

For all references

- For LaTeX and Word
- Determine if reference conforms to JACoW Format
- Suggest a correct reference automatically

[n] S. H. Kim, et al., SRF R&D for FRIB Linac Energy Upgrade with High-performance Medium-beta Elliptical Cavity CW Cryomodules, SRF'23.



[n] S. H. Kim *et al.*, "SRF R&D for FRIB Linac Energy Upgrade with High-performance Medium-beta Elliptical Cavity CW Cryomodules", presented at the SRF'23, Grand Rapids, MI, USA, Jun. 2023, paper FRIBA01, unpublished.

[n] M. Calvi *et al.*, "A GdBCO bulk staggered array undula-tor", Supercond. Sci. Technol., 014004(33), (2020). <https://doi.org/10.18429/JACoW-IPAC2019-FRXXPLS3>



[n] M. Calvi *et al.*, "A GdBCO bulk staggered array undula-tor", Supercond. Sci. Technol., vol. 33, p. 014004, 2020. doi:10.18429/JACoW-IPAC2019-FRXXPLS3

[n] S. H. Kim, et al., SRF R&D for FRIB Linac Energy Upgrade with High-performance Medium-beta Elliptical Cavity CW Cryomodules, SRF'23.



[n] S. H. Kim *et al.*, "SRF R&D for FRIB Linac Energy Upgrade with High-performance Medium-beta Elliptical Cavity CW Cryomodules", presented at the SRF'23, Grand Rapids, MI, USA, Jun. 2023, paper FRIBA01, unpublished.

Questions?