

4. Introduction



What makes a good introduction ?

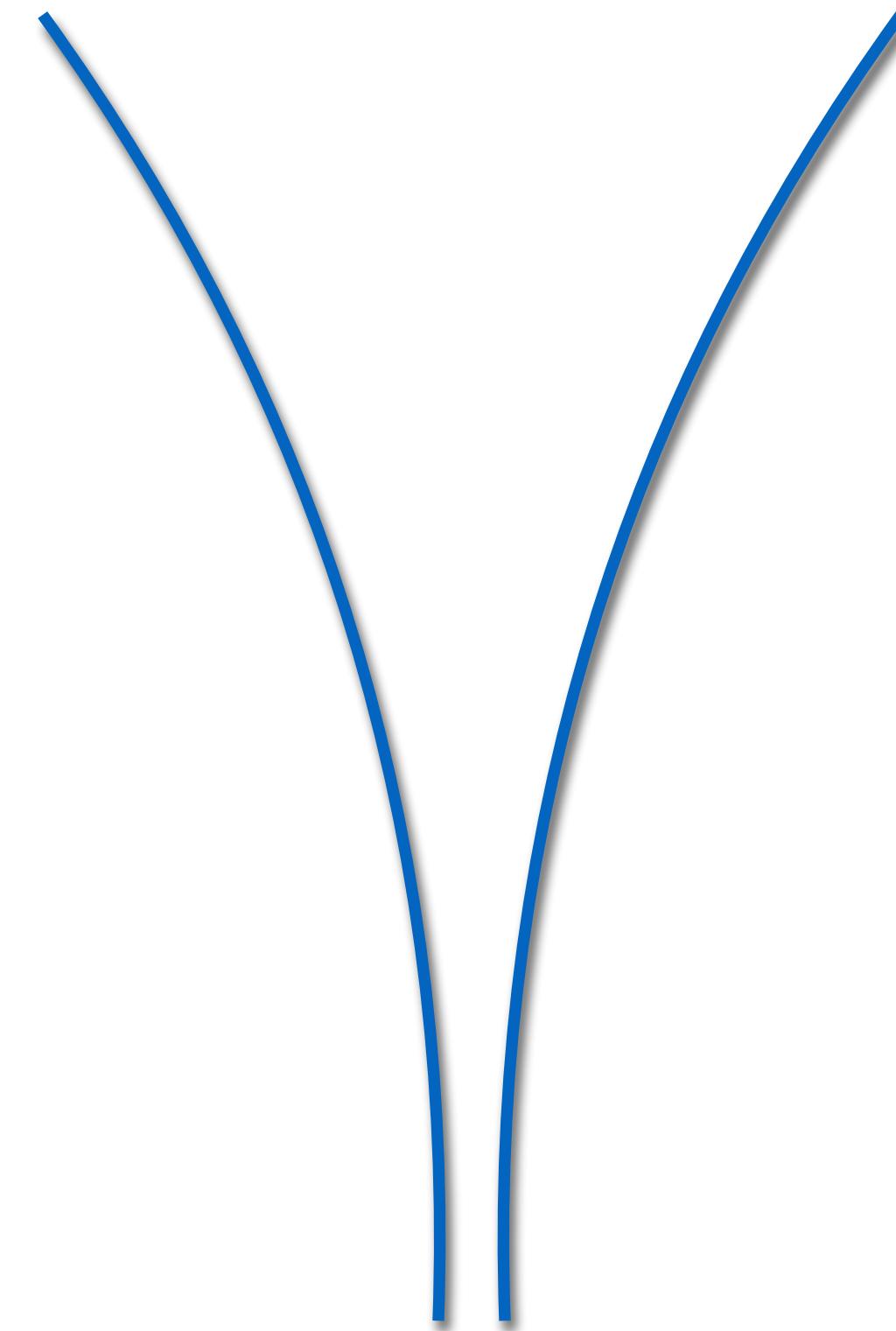
Introduction

- Your introduction is like an **opening**
- The tone and the style are important. If too dull, then the reader may well skip the article



Introduction: main points

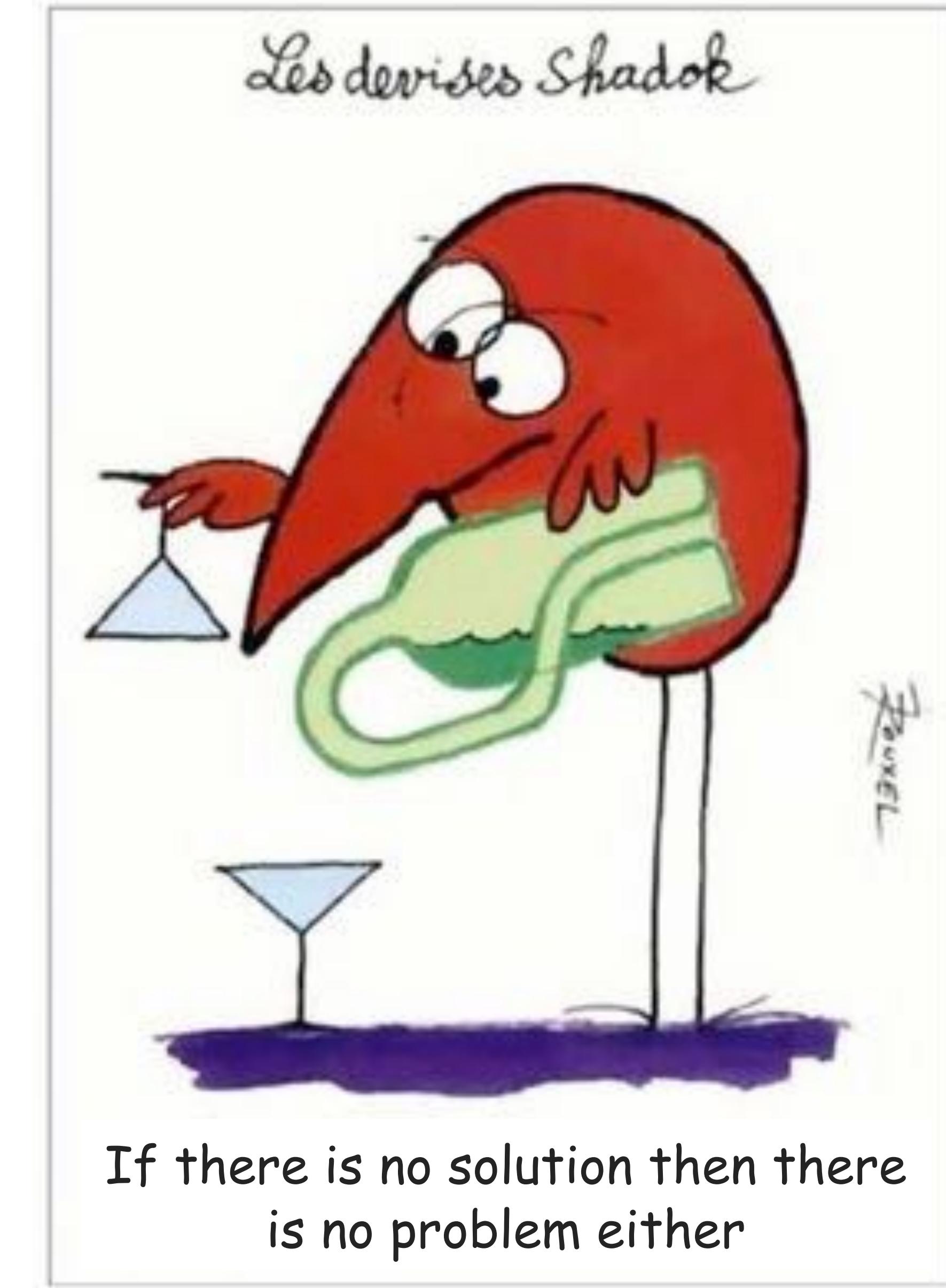
- Start with the **big picture** and progressively narrow down the scope to your topic
- Explain the state of the art and why **your** contribution matters
- End by clearly stating **what problem you will be addressing**



Gradually help the reader go from the big picture to your specific problem

Introduction

Very IMPORTANT:
Say explicitly what problem/issue
you will be addressing



Properly cite the literature

- Take time to go through the literature and check who already addressed your problem...

Many authors ignore (intentionally or unintentionally) what others have written before on the same topic.

■ **Ethical conduct**

- Properly acknowledge what others have done before you
- Give them credit in a fair way : do NOT only cite team members or close friends.

Questions

- Are you allowed to use AI to
 - Write parts of your introduction ?
 - To determine what the main results in the field are ?
 - To do a literature search ?

Questions

- Are you allowed to use AI to
 - Write parts of your introduction ? **NEVER !**
 - To determine what the main results in the field are ? **BE VERY CAREFUL**
 - To do a literature search ? **BE VERY CAREFUL**

5. Method

■ **Method** = how did I proceed ?

- what data ?
- experimental protocol
- data processing and management
- working hypotheses (be explicit)

■ **Traceability** : other people must be able to replicate your study

■ **FAIR** : Findable, Accessible, Interoperable, Reusable

Method

Example: the discovery of cold fusion was a major breakthrough
But no one was able to replicate the work of the discoverers...



6. Results

- Present all your results **clearly**
- Highlight what is **novel, unusual, surprising...**
- If there are many results : don't try to interpret them in too much detail before you have provided the global picture

No cherry picking

No cherry picking : discuss what works and what does NOT work (or remains unexplained)

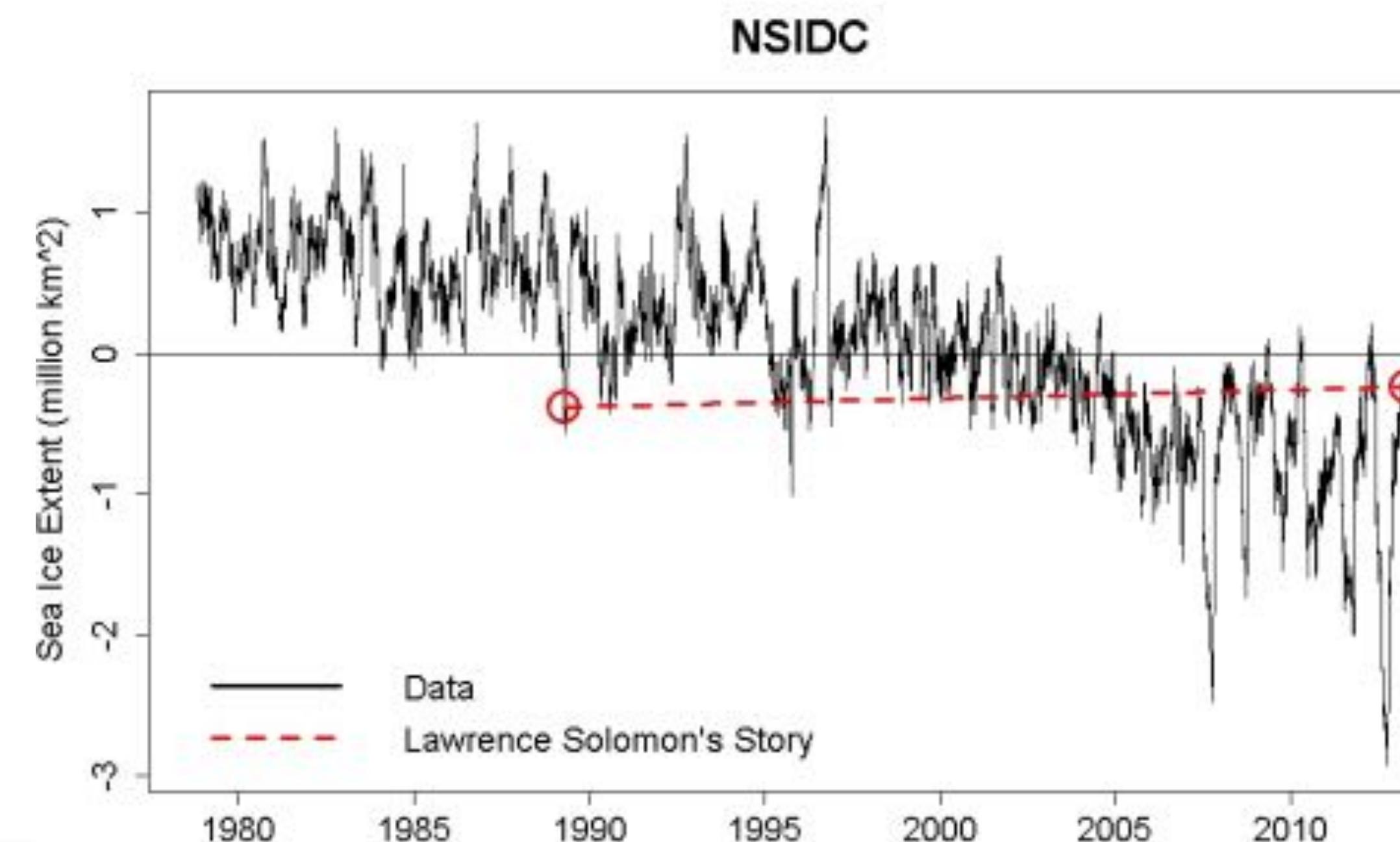


Leite's Culinaria

No cherry picking

Cherry picking, suppressing evidence, or the fallacy of incomplete evidence is the act of pointing to individual cases or data that seem to confirm a particular position while ignoring a significant portion of related and similar cases or data that may contradict that position. Cherry picking may be committed intentionally or unintentionally. This fallacy is a major problem in public debate.

[Wikipedia, 2021]



Lawrence Solomon (2019)

- **Question** : If a study leads to **negative** or **null** results (e.g. the expected effect was not observed), should I nevertheless publish that ?

“Scientific findings are like an iceberg, it floats with around 10% of published discovery above 90% of negative results.”

See for example the International Journal of Negative Results

Understanding failure is vital and yet very few people publish their negative results...

7. Discussion

- The discussion is the core of your study
- This is where **you** will provide your added value

Highlight what is YOUR original contribution to the issue

- Sell your results: highlight what is new
- But do not oversell : be careful with “best”, “first”, “novel”, “first ever”, “new paradigm”, ...
- Put your results in context: compare with others, be honest, discuss what does NOT work

Golden rule : Say what you mean, and mean what you say

**Tell a story : good articles are often structured like a story,
with a buildup of tension, followed by an unwinding**

8. Conclusion

- Conclusion ≠ abstract !
- Conclusion =
 - **Synthesis** of the results
 - Emphasise what **progress** has been made
 - Highlight the **impacts**, the larger implications
 - If relevant, discuss **perspectives** and new ways of elaborating on this problem

- Many readers will jump directly from the abstract to the conclusions.
- The reader is not supposed to have to read the article in order to understand the conclusions.

What are the main parts in this conclusion ?

Control is a central issue in most complex systems, but because a general theory to explore it in a quantitative fashion has been lacking, little is known about how we can control a weighted, directed network—the configuration most often encountered in real systems. Indeed, applying Kalman’s controllability rank condition (equation (3)) to large networks is computationally prohibitive, limiting previous work to a few dozen nodes at most. Here we have developed the tools to address controllability for arbitrary network topologies and sizes. Our key finding, that N_D is determined mainly by the degree distribution, allows us to use the tools of statistical physics to predict N_D from $P(k_{in}, k_{out})$ analytically, offering a general formalism with which to explore the impact of network topology on controllability.

The framework presented here raises a number of questions, answers to which could further deepen our understanding of control in complex environments. For example, although our analytical work focused on uncorrelated networks, the algorithmic method we developed can identify N_D for arbitrary networks, providing a framework in which to address the role of correlations systematically. Taken together, our results indicate that many aspects of controllability can be explored exactly and analytically for arbitrary networks if we combine the tools of network science and control theory, opening new avenues to deepening our understanding of complex systems.

Conclusion : to avoid

■ Avoid rhetoric and personal statements

“In the end, this study was enriching because it allowed me to discover a laboratory, and also learn how a high-resolution mass spectrometer works.”

■ Avoid jargon that can be understood only by reading the full article

“The ZX232 protocol, which we have introduced the MVA method for DBAs, outperforms the older ZH127 protocol for extracting...”

- Conclusions with bullets offers extra conciseness and clarity

To summarise, our study reveals that:

- *The intrinsic properties of ****
- *No substitute has be found for ****
- *An enhancement of ****

Together, these results suggest that

- Not all conclusions need to be structured : e.g. Nature

The screenshot shows a digital publication interface. At the top, there is a dark blue header bar with a small green square icon on the left, a 'Check for updates' button, and a 'comment' button. The main title 'The carbon footprint of large astronomy meetings' is displayed in a large, bold, black font. Below the title, a short summary text reads: 'The annual meeting of the European Astronomical Society took place in Lyon, France, in 2019, but in 2020 it was held online only due to the COVID-19 pandemic. The carbon footprint of the virtual meeting was roughly 3,000 times smaller than the face-to-face one, providing encouragement for more ecologically minded conferencing.' Below this summary, the authors' names are listed: Leonard Burtscher, Didier Barret, Abhijeet P. Borkar, Victoria Grinberg, Knud Jahnke, Sarah Kendrew, Gina Maffey and Mark J. McCaughean. To the left of the summary, there is a block of text starting with 'The scientific evidence that we live in a climate emergency calls for urgent action¹. As a society, we are collectively failing to live within our environmental boundaries², with possibly catastrophic consequences for human civilization¹. The time to address these issues is now^{1,3}. The United Nations Emissions Gap Report from 2019 states that each year a global reduction of emissions of 7.6% is required to limit the average global temperature rise to 1.5 °C (ref. ³) — the target that was outlined in the Paris Agreement in 2016. At the current rate of emissions, we will exceed the 'carbon budget'.

Check for updates **comment**

The carbon footprint of large astronomy meetings

The annual meeting of the European Astronomical Society took place in Lyon, France, in 2019, but in 2020 it was held online only due to the COVID-19 pandemic. The carbon footprint of the virtual meeting was roughly 3,000 times smaller than the face-to-face one, providing encouragement for more ecologically minded conferencing.

Leonard Burtscher, Didier Barret, Abhijeet P. Borkar, Victoria Grinberg, Knud Jahnke, Sarah Kendrew, Gina Maffey and Mark J. McCaughean

The scientific evidence that we live in a climate emergency calls for urgent action¹. As a society, we are collectively failing to live within our environmental boundaries², with possibly catastrophic consequences for human civilization¹. The time to address these issues is now^{1,3}. The United Nations Emissions Gap Report from 2019 states that each year a global reduction of emissions of 7.6% is required to limit the average global temperature rise to 1.5 °C (ref. ³) — the target that was outlined in the Paris Agreement in 2016. At the current rate of emissions, we will exceed the 'carbon budget'.

The graph displays two data series: 'Number of trips' (blue line) and 'Cumulative CO2 emissions (kg)' (red line). The x-axis lists cities: Amsterdam, Berlin, Rome, Stockholm, Moscow, Tel Aviv, Tenerife, Abu Dhabi, Detroit, Los Angeles, and Sydney. The y-axis for the blue line ranges from 30 to 80 trips. The y-axis for the red line ranges from 50,000 to 200,000 kg. The red line shows a sharp increase starting from Los Angeles, reaching approximately 200,000 kg of emissions.

City	Number of trips	Cumulative CO ₂ emissions (kg)
Amsterdam	~78	~200,000
Berlin	~30	~175,000
Rome	~32	~150,000
Stockholm	~35	~125,000
Moscow	~42	~100,000
Tel Aviv	~45	~85,000
Tenerife	~48	~75,000
Abu Dhabi	~52	~65,000
Detroit	~55	~55,000
Los Angeles	~68	~50,000
Sydney	~78	~200,000

Take home message

emissions of joining EAS 2020 compared to working in the home office.

The future of conferencing

We conclude that the internet-related emissions of EAS 2020 were negligible compared to the travel-related emissions alone of EWASS 2019. This finding is in common with other recent estimates for large international conferences, for example, a virtual annual meeting of the American Geophysical Union (AGU) was calculated to emit less than 0.1% of the travel emissions of the face-to-face AGU 2019 meeting¹⁶.

One approach to cut emissions while retaining scientific and social connections globally is to 'attach' smaller satellite meetings to the large annual meetings of the respective regional astronomical societies. For example, the weeks before and after the (Northern Hemisphere) winter American Astronomical Society and (Northern Hemisphere) summer EAS meetings could be used for smaller meetings that are held in the vicinity, requiring minimal extra travel emissions to join them. A meeting schedule could be coordinated globally by the International Astronomical Union.

That means to an increasing need of night trains across Europe at least and, in the future, short flights that can be powered by synthesized fuel or batteries. Such a scheme of regional hubs has been tried and evaluated as successful by various groups in the last year^{17,18}.

Lastly, we also see a possibility to move to an entirely online meeting format without any (large) physical meetings in the future. Such meetings could be held in the 'nearly carbon neutral conferencing' format¹⁹, that is, essentially with pre-recorded talks and live discussion sessions, to minimize the time where everyone needs to be online simultaneously, and therefore allow global collaboration across many time-zones.

The emerging picture is that there is a real opportunity for future meetings to adopt practices that provide a range of attendance possibilities for participants, which promote a more sustainable, accessible and diverse meeting concept for the growing international community. While discussions are ongoing regarding the future of meetings, we expect that the post-COVID-19 future will hold a mix of purely virtual conferences, next to hybrid meetings where some participants join in person and others use a

<https://doi.org/10.1038/s41550-020-1208-y>

7. Portegies Zwart, S. *Nat. A* **2020-1208-y** (2020).
8. Flagey, N., Thronas, K., P. *Nat. Astron.* <https://doi.org/10.1038/s41550-020-1208-y>
9. Barret, D. *Exp. Astron.* **49** (2019).
10. *Emissions de CO₂ Marché* [wp-content/uploads/2018/09/CO₂_Marche.pdf](http://wp-content/uploads/2018/09/CO2_Marche.pdf)
11. Jahnke, K. et al. *Nat. Astron.* **1202-4** (2020).
12. Muntean, M. et al. *Fossil Fuel CO₂ Emissions from the Global Economy in 2018 Report* (Publications Directorate, 2019). <https://go.nature.com/3gcL9L>
13. *Zoom Bandwidth Requirements for Video Conferencing* (Zoom, 2019). <https://support.zoom.us/hc/en-us/articles/201362533>
14. Aslan, J., Mayers, K., Koo, J. *Environ. Res. Lett.* **13**, 074002 (2018).
15. *Overview of Electricity Prices in the United States* (U.S. Energy Information Administration, 2019). <https://go.nature.com/2Q9L9L>
16. Klöwer, M., Hopkins, D., Koo, J. *Environ. Res. Lett.* **15**, 034002 (2020).
17. Abbott, A. *Nature* **577**, 13 (2020).
18. Reshef, O. et al. *Nat. Rev. Astron.* **1**, 1 (2020).
19. Hiltner, K. *A Nearly Carbon Neutral Conference* (University of California, Berkeley, 2019). <https://hiltner.english.ucs.berkeley.edu/>

Acknowledgements

L.B. would like to acknowledge contributions on a draft article from M. Muntean, L. Kaper, S. Lucatello, S. J. M. de Groot, and A. Schouten-Voskamp.

Competing interests

L.B. was a member of the EAS 2020 meeting. M.J.M. was a member of the organizing committee of the EAS 2020 meeting. The remaining authors declare no competing interests.

- Good conclusions mirror the **question** that was asked in the introduction and clearly show what progress has been made
 - Where did we start from ?
 - What did we achieve ?
 - What should the next steps be ?

- Highlight your **take home message**

If the reader had to remember one single sentence,
what should it be ?

YOU should decide what matters rather than let
the reader guess it

Take home message: example

Control is a central issue in most complex systems, but because a general theory to explore it in a quantitative fashion has been lacking, little is known about how we can control a weighted, directed network—the configuration most often encountered in real systems. Indeed, applying Kalman's controllability rank condition (equation (3)) to large networks is computationally prohibitive, limiting previous work to a few dozen nodes at most. Here we have developed the tools to address controllability for arbitrary network topologies and sizes. Our key finding, that N_D is determined mainly by the degree distribution, allows us to use the tools of statistical physics to predict N_D from $P(k_{in}, k_{out})$ analytically, offering a general formalism with which to explore the impact of network topology on controllability. The framework presented here raises a number of questions, answers to which could further deepen our understanding of control in complex environments. For example, although our analytical work focused on uncorrelated networks, the algorithmic method we developed can identify N_D for arbitrary networks, providing a framework in which to address the role of correlations systematically. **Taken together, our results indicate that many aspects of controllability can be explored exactly and analytically for arbitrary networks if we combine the tools of network science and control theory, opening new avenues to deepening our understanding of complex systems.**

9. Acknowledgements

- Thank the people who
 - Contributed in some way to the study
 - Who commented on the manuscript
 - The referees (if they were helpful)
 - Provided the free software (e.g. python modules)
 - And always thank your **funding agencies** (mandatory !)
- Be very factual.
 - Avoid : “*and I thank Lizz and Jim for making coffee...*”
- Mention people explicitly when known

Acknowledgements

Failing to acknowledge your sponsors or funding agencies may cause your funding to be suspended.

This is critical for EU-funded projects.

Acknowledgements

- Check what are the rules for thanking your funding agency
- Example:

“P. M. and M. K. gratefully acknowledge the International Space Science Institute (ISSI, Bern) for hospitality. This study received funding from the European Community’s Seventh Framework Programme (FP7/2007-2013) under the grant agreement number 218816 (SOTERIA project) and from the Programme National Soleil-Terre (PNST). We also thank Thomas Benseghir and Nolwenn Marchand for their assistance in the data analysis. The AIA data are courtesy of SDO (NASA) and the AIA consortium.”

10. Table of Contents

■ When is a table of contents needed / useful ?

Table of Contents

- TOCs are not required, except for long reviews and theses
- **Tip:** build the table of contents even if not needed and check whether the titles/subtitles are consistent

This is easy with LaTeX : just add \tableofcontents

What problems do you spot in this Table of contents ?

1. *The Introduction*
2. *Datasets*
3. *Three decades of boronisation and their results*
4. *Methodology*
 - 4.1. *Methods*
 - 4.2. *Assumptions*
 - 4.3. *What is the impact of boronisation ?*
5. *Main results of this study and their impact*
 - 5.1. *In high beta regime*
 - 5.2. *Results in low beta regime*
 - 5.3. *Results: summary*
 - 5.4. *Methodological issues*
6. *Discussion and Conclusion*

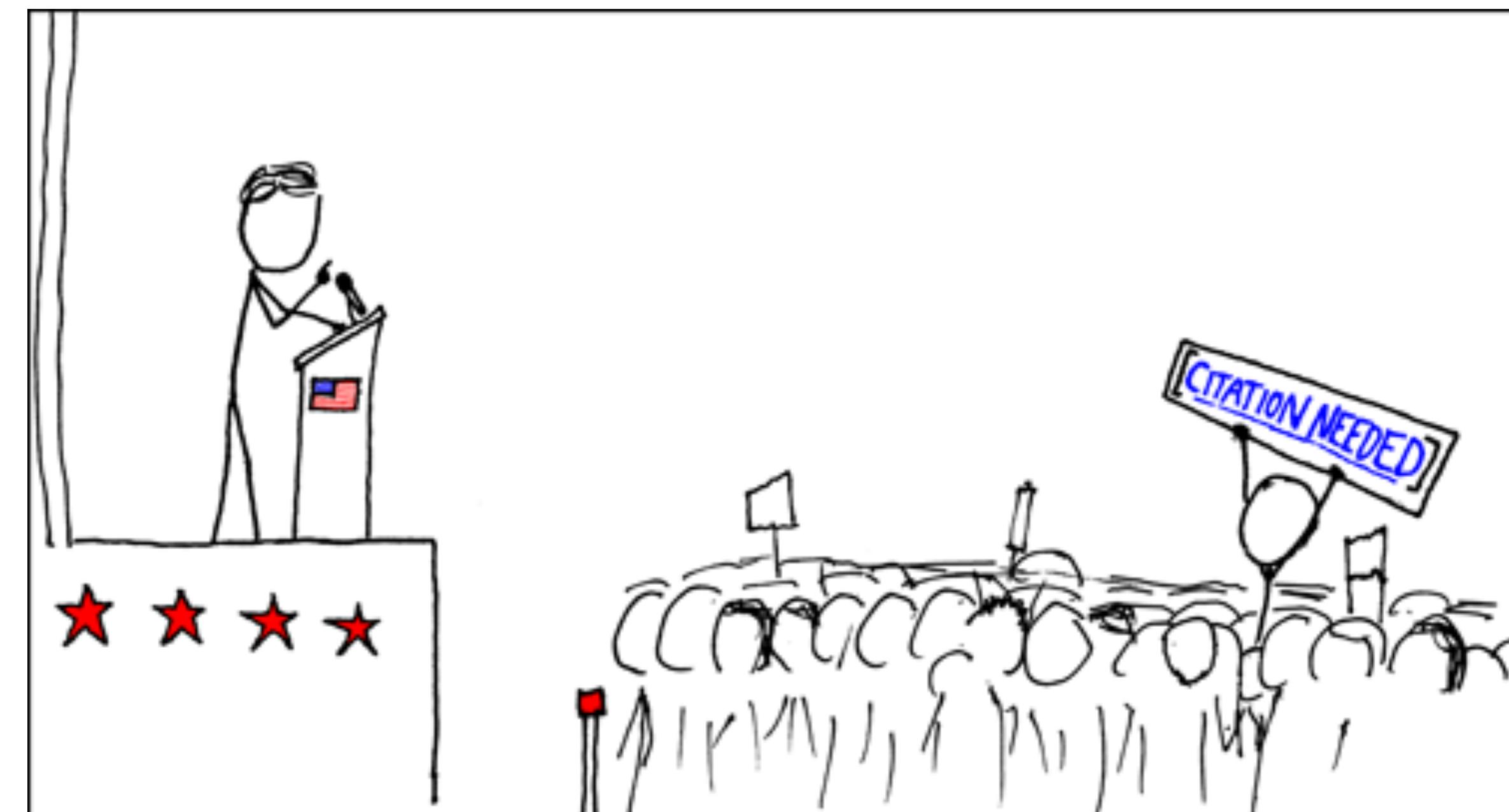
11. Supplementary material

- Supplementary material = everything that may be useful to some but would distract the reader from the main message if put in the core of the article
- Use with moderation

References

References

- Your sources of information must be cited
- ...but these citations must be reliable
 - Perennial
 - Easy to find



<https://xkcd.com/285/>

What is eligible for a citation in a scientific article ?

book with ISBN	always
book without ISBN	no
website with date of last visit	usually not
website	no
abstract submitted to a conference	no, unless in specific cases, when published in a book
peer-reviewed article, not in English	only if necessary
article in mainstream newspaper	no (there are exceptions in humanities)
proceedings of a conference (published)	no, unless in specific cases, when published in a book
technical report	if necessary
PhD thesis	if necessary
submitted (but not yet accepted) article	no, use instead (Name, personal communication)
article in preparation (not yet submitted)	never
preprint in archive (e.g. ArXiV)	some journals accept preprints

How to cite ?

- Each journal has its own rules
- Examples
 - Recent studies [2] and...
 - Recent studies [MacKay et al., 2018] and...
 - Recent studies (MacKay et al., 2018) and...
 - Recent studies by MacKay et al. (2018), and...
- See for example the Chicago Manual of Style :
<https://www.chicagomanualofstyle.org/home.html>

Degtyarev, V. I., Kharchenko, I. P., Potapov, A. S., Tsegmed, B., and Chudnenko, S. E.: Qualitative estimation of magnetic storm efficiency in producing relativistic electron flux in the Earth's outer radiation belt using geomagnetic pulsations data, *Adv. Space Res.*, V. 43 (5), 829–836, doi:10.1016/j.asr.2008.07.004, 2009.

Degtyarev, V. I., Kharchenko, I. P., Potapov, A. S., Tsegmed, B., and Chudnenko, S. E.: The relation between geomagnetic pulsations and an increase in the fluxes of geosynchronous relativistic electrons during geomagnetic storms, *Geomagnetism and Aeronomy*, 50(7), 885–893, 2010.

Delouille V., Mampaey B., Verbeeck C., and de Visscher R, The SPoCA-suite: a software for extraction and tracking of Active Regions and Coronal Holes on EUV images, Arxiv e-prints, 1208.1483, 2012.

Dow J.M., R. E.Neilan and C.Rizos, The International GNSS Service in a changing landscape of Global Navigation Satellite Systems, *Journal of Geodesy*, 83:191–198, DOI: 10.1007/s00190-008-0300-3, 2009.

Egorova, T., Rozanov, E., Ozolin, Y., Shapiro, A., Calisto, M., Peter, T., and Schmutz, W.: The atmospheric effects of October 2003 solar proton event simulated with the chemistry-climate model SOCOL using complete and parameterized ion chemistry, *J. Atmos. Sol.-Terr. Phys.*, 10 73(2–3), 356–365, doi:10.1016/j.jastp.2010.01.009, 2011.

Feltens, J., M. Angling, N. Jackson-Booth, N. Jakowski, M. Hoque, M. Hernández-Pajares, A. Aragón-Àngel, R. Orús, and R. Zandbergen (2011), Comparative testing of four ionospheric models driven with GPS measurements, *Radio Sci.*, 46, RS0D12, doi:10.1029/2010RS004584.

Fuller-Rowell, T., E. A. Araujo-Pradere, C. Minter, M. Codrescu, P. Spencer, D. Robertson, and A. R. Jacobson, US-TEC: A new data assimilation product from the Space Environment Center characterizing the ionospheric total electron content using real-time GPS data, *Radio Sci.*, 41, RS6003, doi:10.1029/2005RS003393, 2006.

Gulyaeva, T.L., Jakowski N., Validation of Consistency of GPS/NTCM2 and SMI-96 Derived Maps of Total Electron Content Through the Ionosphere and Plasmasphere, *Proc. 3rd COST251 Workshop*, (Eds. R. Hanbaba and B.A. de la Morena), September, 1998, 109-118, 1999



Degtyarev, V. I., Kharchenko, I. P., Potapov, A. S., Tsegmed, B., and Chudnenko, S. E.: Qualitative estimation of magnetic storm efficiency in producing relativistic electron flux in the Earth's outer radiation belt using geomagnetic pulsations data, *Adv. Space Res.*, V. 43 (5), 829–836, doi:10.1016/j.asr.2008.07.004, 2009.

Degtyarev, V. I., Kharchenko, I. P., Potapov, A. S., Tsegmed, B., and Chudnenko, S. E.: The relation between geomagnetic pulsations and an increase in the fluxes of geosynchronous relativistic electrons during geomagnetic storms, *Geomagnetism and Aeronomy*, 50(7), 885–893, 2010.

Delouille V., Mampaey B., Verbeeck C., and de Visscher R, The SPoCA-suite: a software for extraction and tracking of Active Regions and Coronal Holes on EUV images, Arxiv e-prints, 1208.1483, 2012.

Dow J.M., R. E. Neilan and C. Rizos, The International GNSS Service in a changing landscape of Global Navigation Satellite Systems, *Journal of Geodesy*, 83:191–198, DOI: 10.1007/s00190-008-0300-3, 2009.

Egorova, T., Rozanov, E., Ozolin, Y., Shapiro, A., Calisto, M., Peter, T., and Schmutz, W.: The atmospheric effects of October 2003 solar proton event simulated with the chemistry-climate model SOCOL using complete and parameterized ion chemistry, *J. Atmos. Sol.-Terr. Phys.*, 1073(2–3), 356–365, doi:10.1016/j.jastp.2010.01.009, 2011.

Feltens, J., M. Angling, N. Jackson-Booth, N. Jakowski, M. Hoque, M. Hernández-Pajares, A. Aragón-Àngel, R. Orús, and R. Zandbergen (2011), Comparative testing of four ionospheric models driven with GPS measurements, *Radio Sci.*, 46, RS0D12, doi:10.1029/2010RS004584.

Fuller-Rowell, T., E. A. Araujo-Pradere, C. Minter, M. Codrescu, P. Spencer, D. Robertson, and A. R. Jacobson, US-TEC: A new data assimilation product from the Space Environment Center characterizing the ionospheric total electron content using real-time GPS data, *Radio Sci.*, 41, RS6003, doi:10.1029/2005RS003393, 2006.

Gulyaeva, T.L., Jakowski N., Validation of Consistency of GPS/NTCM2 and SMI-96 Derived Maps of Total Electron Content Through the Ionosphere and Plasmasphere, Proc. 3rd COST251 Workshop, (Eds. R. Hanbaba and B.A. de la Morena), September, 1998, 109-118, 1999.



How to cite ?

- Lists of references are often full of errors

“Sloppy citations = sloppy writing = sloppy work”

Use as much as possible automated tools for collecting
(ZOTERO...) and displaying (BiBTeX...) references.
But even these are not devoid of errors

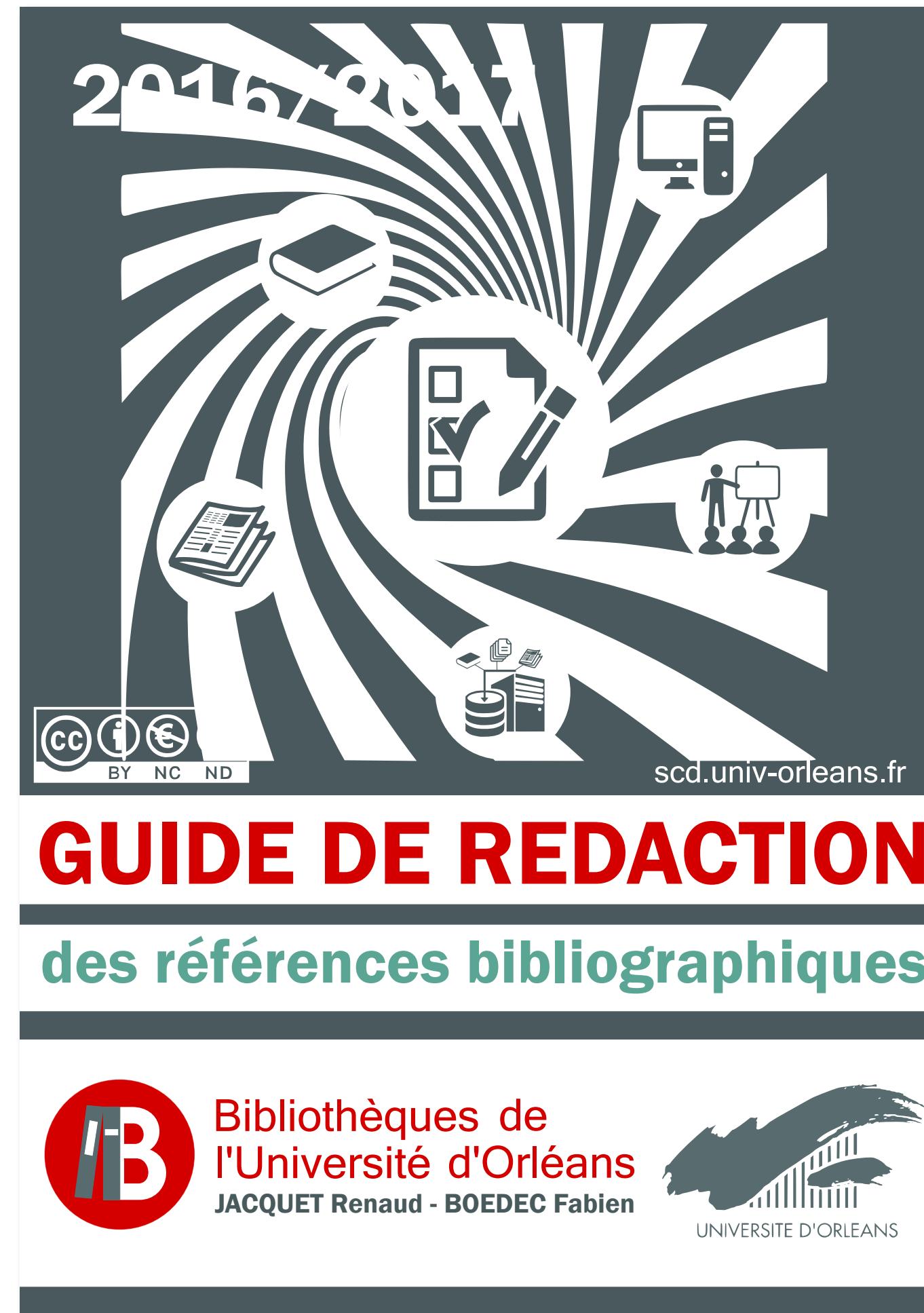
How to cite ?

- There are excellent tools around (EndNote, JabRef, Mendeley, BiBDesk...) for collecting and handling references

Cite Key	Title	BibTeX Type	First Author	Journal	Year	Volume	Pages	Added	...
heaton24	Extreme solar storms and the quest for exact dating...	article	T. J. Heaton	Nature	2024	633	306-317	14/10/2024	
hennebelle24	What trade-off for astronomy between greenhouse...	inproceedings	P. Hennebelle		2024		303-308	18/12/2025	
hodnebrog24	Recent reductions in aerosol emissions have increa...	article	Ø. Hodnebrog	Communications Earth...	2024	5	166	11/04/2024	
hohensinn24	Sensitivity of GNSS to vertical land motion over Eur...	article	R. Hohensinn	Journal of Geodesy	2024	98	68	15/07/2024	
hou24	The origin of interplanetary switchbacks in reconne...	article	C. Hou	Nature Astronomy	2024			16/10/2024	
hou24b	Connecting Solar Wind Velocity Spikes Measured b...	article	C. Hou	The Astrophysical Jour...	2024	968	L28	16/10/2024	
howes24	The fundamental parameters of astrophysical plasm...	article	G. G. Howes	Journal of Plasma Phys...	2024	90	905900504	04/12/2024	
hudson24	The Greatest GOES Soft X-ray Flares: Saturation an...	article	H. Hudson	Solar Physics	2024	299	39	11/04/2024	
jebaraj24	Acceleration of Electrons and Ions by an ``Almost''...	article	I. C. Jebaraj	The Astrophysical Jour...	2024	968	L8	07/06/2024	
jerse24	Deep Learning LSTM-based approaches for 10.7 cm...	article	G. Jerse	Astronomy and Compu...	2024		100786	06/01/2024	
jha24	Butterfly Diagram and Other Properties of Plage Are...	article	B. K. Jha	Solar Physics	2024	299	166	23/01/2025	
judd24	A 485-million-year history of Earth's surface tempe...	article	E. J. Judd	Science	2024	385	eadk3705	20/09/2024	
katsavrias24	Proton polytropic behavior of periodic density struc...	article	C. Katsavrias	Astronomy and Astrop...	2024	686	L10	13/11/2025	
kepko24	Heliophysics Great Observatories and international...	article	L. Kepko	Advances in Space Re...	2024			22/01/2024	
kepko24b	Periodic Mesoscale Density Structures Comprise a...	article	L. Kepko	Journal of Geophysical...	2024	129	e2023JA031...	20/10/2025	
knodlseder24	Scenarios of future annual carbon footprints of astr...	article	J. Knödlseder	Nature Astronomy	2024			27/08/2024	
kopp24	Correlations between Total and Spectral Solar Irradi...	article	G. Kopp	The Astrophysical Jour...	2024	964	60	11/11/2024	
kowalski24	Stellar flares	article	A. F. Kowalski	Living Reviews in Solar...	2024	21	1	29/04/2024	
krauss24	SODA \text{---} A tool to predict storm-induced...	article	S. Krauss	Journal of Space Weat...	2024	14	23	12/11/2025	
krupar24	Radial Variations in Solar Type III Radio Bursts	article	V. Krupar	The Astrophysical Jour...	2024	967	L32	02/07/2024	
lawrence24	A Catalog of Metric Type II Radio Bursts Detected b...	article	B. Lawrence	Solar Physics	2024	299	75	21/08/2024	
lee24	Solar Spicules, Filigrees, and Solar Wind Switchbacks	article	J. Lee	The Astrophysical Jour...	2024	963	79	19/03/2024	
lenton24	Remotely sensing potential climate change tipping...	article	T. M. Lenton	Nature Communications	2024	15	343	10/01/2024	
lockwood24	Reconstruction of Carrington Rotation Means of Op...	article	M. Lockwood	Solar Physics	2024	299	28	11/04/2024	
lotoaniu24	Spectral Indices and Evidence of Wave\text{---}...	article	P. T. M. Loto'aniu	The Astrophysical Jour...	2024	970	161	21/09/2025	
love24	On the uncertain intensity estimate of the 1859 Car...	article	J. J. Love	Journal of Space Weat...	2024	14	21	20/11/2024	

[Kepko et al. (2024) Kepko, Viall, and DiMatteo] L. Kepko, N. M. Viall, and S. DiMatteo. Periodic Mesoscale Density Structures Comprise a Significant Fraction of the Solar Wind and Are Formed at the Sun. *Journal of Geophysical Research (Space Physics)*, 129(1):e2023JA031403, Jan. 2024. doi: 10.1029/2023JA031403.

How to cite ?



Available on Celene and on
<https://scd.univ-orleans.fr/sites/default/files/contributeurs/guide-biblio-orle.pdf>

■ Can I use AI for a literature search ?

Use AI only as an (incompetent) guide, NEVER as a substitute

Wiley (2026)



Discover

Use AI in conjunction with your database search

Use AI to get initial suggestions for researchers and papers to investigate

Use AI to get oriented in unfamiliar research areas

Use AI to expand search terms



Verify

Independently verify sources and ensure citations and claims are accurate

Ask yourself if your search shows potential bias toward dominant perspectives



Analyze

Read papers thoroughly to understand methodology and findings

Use AI to support identification of patterns or gaps across sources

Develop your own critical analysis and interpretation



Incorporate

Use AI to help organize themes from literature

Use AI to assess how well your literature review supports your arguments

Use AI for editing support and content polishing

If using AI to support drafting or editing, ensure your scholarly voice and analysis come through

Ensuring the quality of your literature survey

- Read relevant primary sources yourself rather than relying solely on AI summaries
- Use AI to support rather than replace your critical thinking
- Ensure all citations directly support the specific claims you're making in your manuscript
- Verify that every citation corresponds to an actual, accessible publication
- Confirm that cited sources make the arguments you attribute to them

from : <https://www.wiley.com/en-us/publish/article/ai-guidelines/#litreview>