



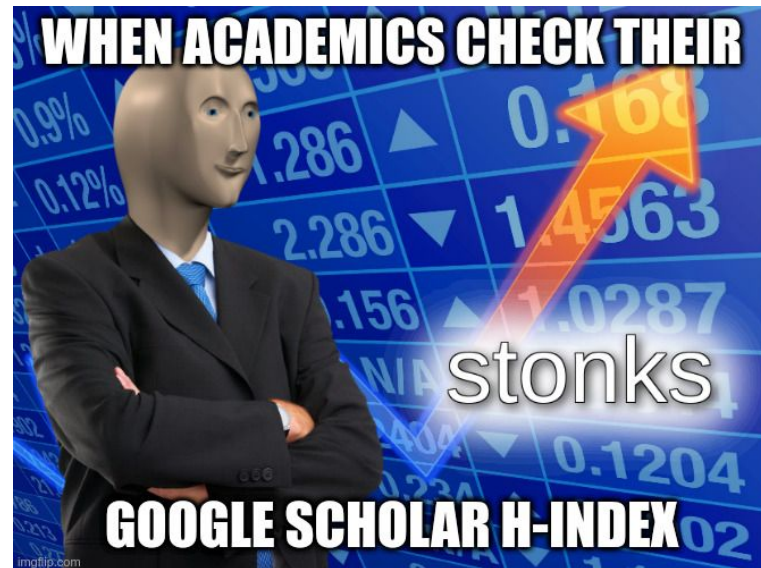
Metrics in Context

Towards A Data Specification for Scholarly Metrics

Metrics Reloaded

Scholarly Metrics

- citation counts
- h-index, h5-index
- Impact Factor, 5-Year Impact Factor
- Eigenfactor
- SJR
- SNIP
- Altmetric score
- Researchgate score
- Scite score



Responsible Research Metrics



DORA (Declaration on Research Assessment)

"11. Be open and transparent by providing *data and methods* used to calculate all metrics."

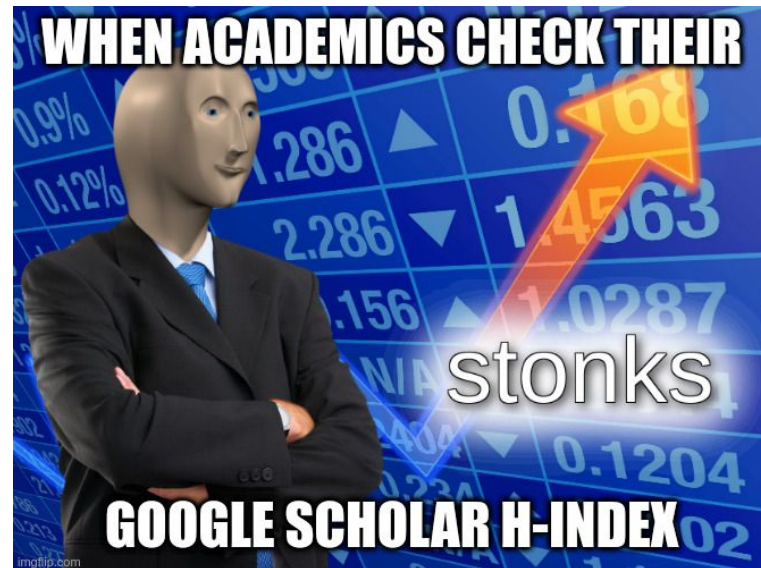
Leiden Manifesto



"4. Keep *data collection* and *analytical processes* open, transparent and simple."

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Data sources for metrics



WEB OF SCIENCE

Scopus®

Google
Scholar

Dimensions



Microsoft Academic



WIKIDATA



Semantic Scholar



LENS.ORG

Solving The Problem Of Problem Solving™

OpenCitations

R^G



Event Data



DataCite
FIND, ACCESS, AND REUSE DATA

scite_

iCite

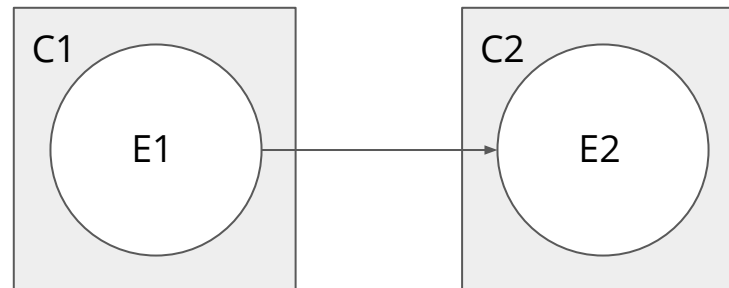


Altmetric

Citational events (and their contexts)

- References, in-text citations, data & software, ...
- Patents, policy documents, Wikipedia articles, ...
- Twitter, Facebook, Reddit, ...

A citation as an interdiscursive event¹, i.e., a discursive event that relates to another one.



Every *citational event* happens in a *context*. The context determines whether a particular data source traces a citational event or not.

¹Nakassis, C. V. (2013). Citation and citationality. *Signs and Society*, 1(1), 51-77.

Citational Events

Peer-reviewed
articles

Preprints, datasets,
software

Indexed pages

Patents, policy
documents

Social Media and
other online
platforms

Citational Events

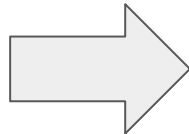
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Traces



Scopus®



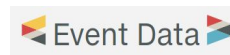
scite_



OpenCitations



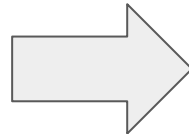
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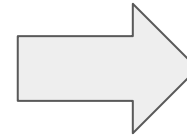
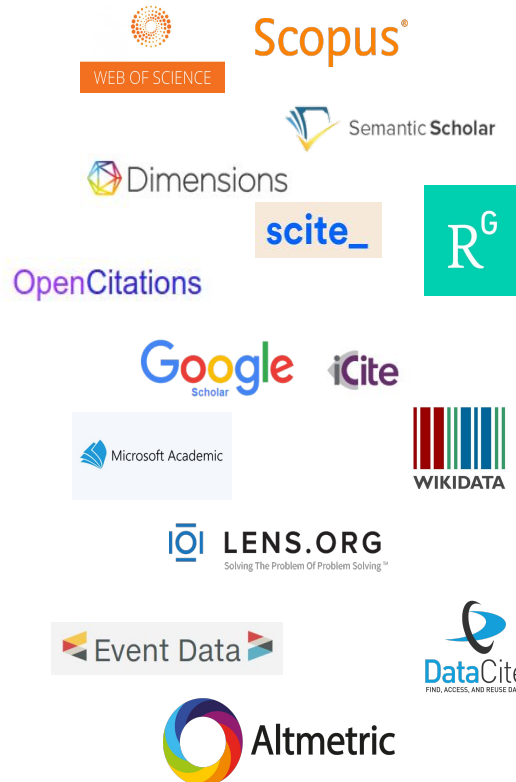
Tracing

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Traces



Patterns

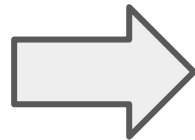
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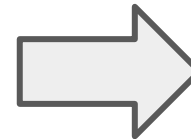
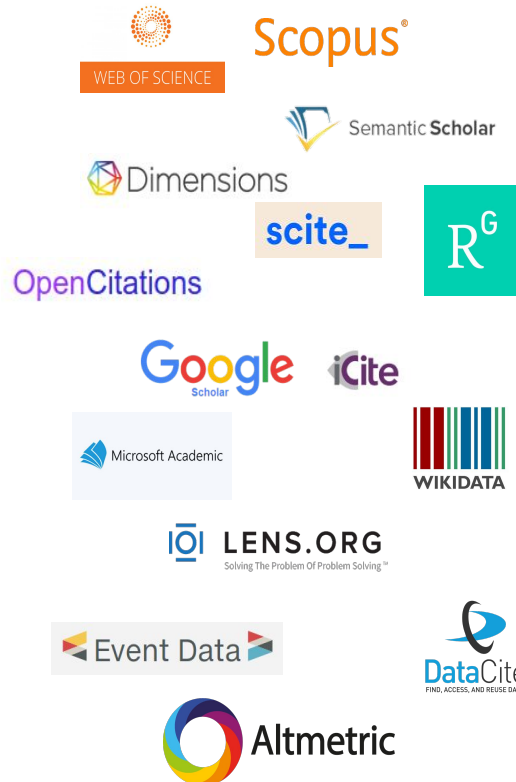
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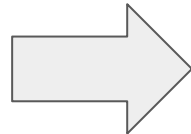
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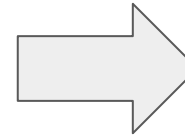
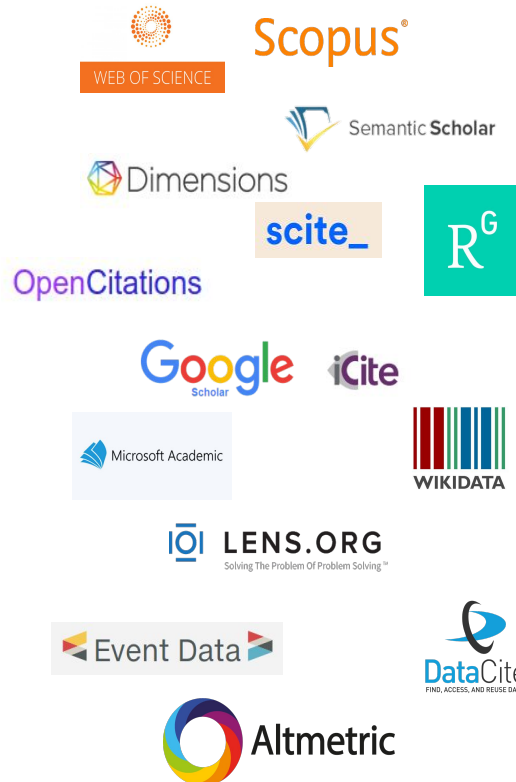
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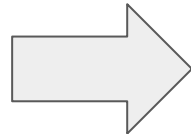
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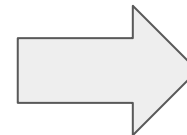
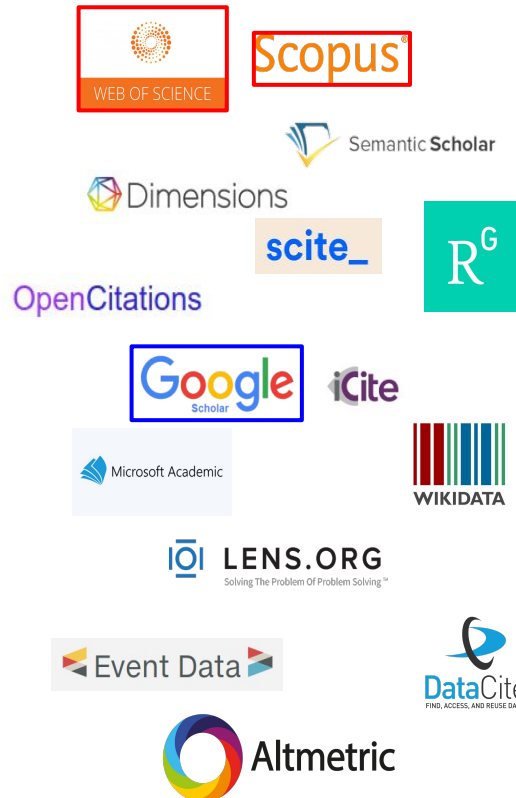
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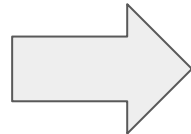
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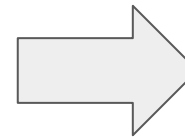
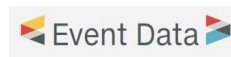
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Scholarly Metrics & Provenance

Contexts

1. What are the contexts of the captured citational events?

citations and references, data & software, patents, social media, ...

Tracing

2. How are those events traced?

manual curation, structured data, language processing, ML/AI methods

Patterning

3. How are traces transformed as patterns?

aggregation, creation of networks, enrichment of metadata, patterns of patterns, ...

Scholarly Metrics & *Provenance*

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If it's not from the *provenance* region in France, it's just fancy metadata...



(Not) creating yet another standard...



Frictionless Data is *"a progressive, incrementally adoptable open-source toolkit that brings simplicity and gracefulness to the data experience"*

A suite of data tools to describe and handle coherent datasets:

Frictionless data packages & table schemas.

- Scientometric and bibliometric research
- Research evaluation and other applications of scholarly metrics

A Data Package for Scholarly Metrics



Data Package

Simple container format
used to describe and
package data.



Provenance
for scholarly
metrics



... to “keep data collection and analytical processes open, transparent”

... to determine if scholarly metrics are commensurable

... to make the invisible parts of scholarly metrics visible

My Questions (help me)

- Existing data specifications and ontologies: PROV-O, FOAF, or Dublin Core. Experience with implementing or building on any of these?
- *Provenance of closed data sources*. Is there research on this topic? Any projects that have explored this area?