



# OPEN METADATA SOURCES

COMPARING OPENALEX TO  
OPENAIRE

DATE: 10 AUGUST 2023

[PRELIMINARY VERSION]

# Executive Summary

In this project, we assess and compare OpenAlex to OpenAIRE metadata, both in coverage of publications and other research output (with and without DOIs) as well as in coverage of metadata (including identifiers) for authors, institutions, publication venues and disciplines.

The report currently contains all the graphs comparing metadata coverage of OpenAlex compared to OpenAIRE, and of DOIs vs non-DOIs in openaire. More explanatory text, tables and interpretation of findings will be added in a later version.

Complete data and code are available on Github:

<https://github.com/Curtin-Open-Knowledge-Initiative/open-metadata-report>

All images and data belonging to this report are located in the directory [reports\run\\_20230810\\_crossref\\_openalex\\_openaire\\_1](#) in this repository.

# Introduction and Background

In January 2022, OpenAlex was launched as a source of open bibliographic metadata. Intended both as a replacement of and improvement on Microsoft Academic, it provides structured data on publications, authors, institutions and publication venues.

Many tools, projects and services relied on Microsoft Academic as source of largely open metadata, and might consider switching to OpenAlex. More broadly, the launch of OpenAlex has increased interest in the potential of open metadata to enable discovery, linking and integration of data on research processes and outputs.

Unlike metadata from closed sources, open metadata can be combined and enriched to provide a rich open metadata landscape. Transparency and provenance allow identifying and addressing existing gaps and biases in coverage and quality.

In this project, we assess and compare OpenAlex to OpenAIRE metadata, both in coverage of publications and other research output (with and without DOIs) as well as in coverage of metadata (including identifiers) for authors, institutions, publication venues and disciplines.

## Data sources

This report was run using the following tables as source data:

- OpenAlex: `academic-observatory.openalex.works_snapshot20230602`
- OpenAIRE: `academic-observatory.openaire.publication20221230`

Complete data and code are available on Github:

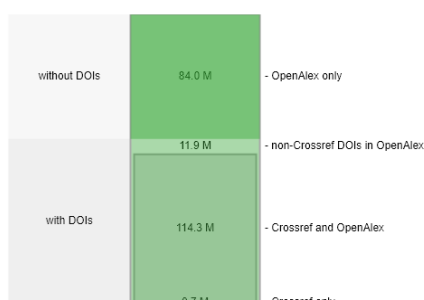
<https://github.com/Curtin-Open-Knowledge-Initiative/open-metadata-report>

All images and data belonging to this report are located in the directory [reports/run\\_20230810\\_crossref\\_openalex\\_openaire\\_1](#) in this repository.

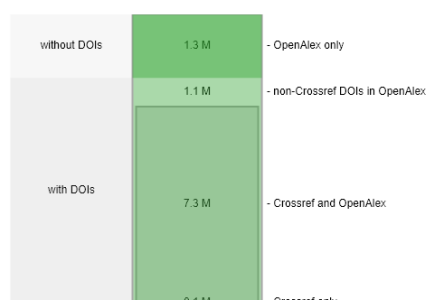
# Coverage of OpenAlex and OpenAIRE

## Comparing coverage

### Overview - OpenAlex

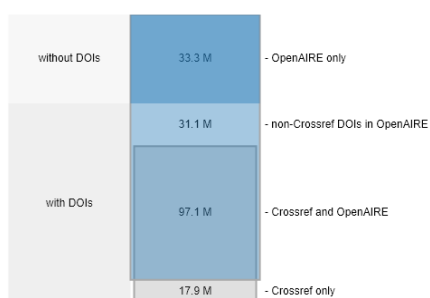


overall comparison - all time

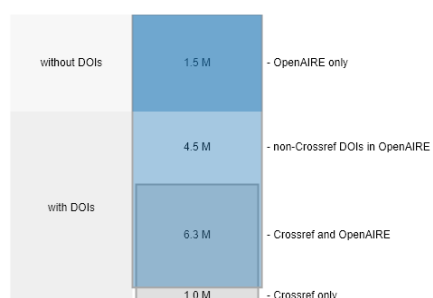


overall comparison - 2021

### Overview - OpenAIRE

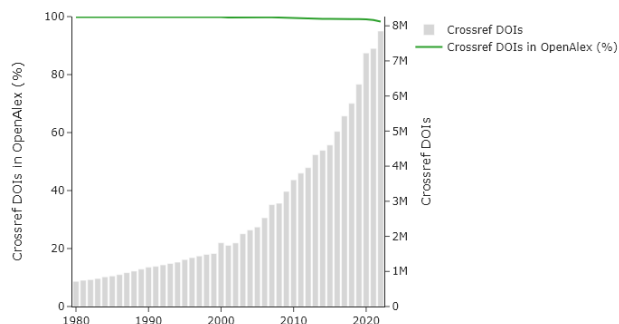


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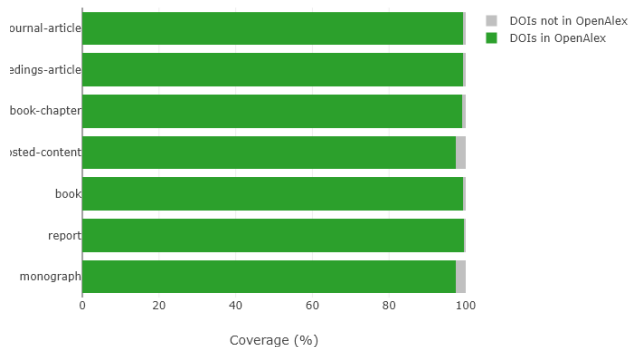


overall comparison - 2021

## By year and publication type - OpenAlex

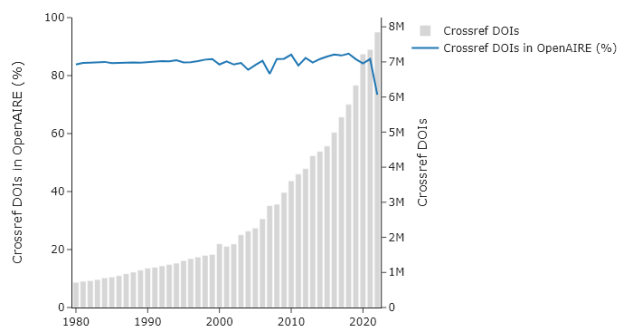


coverage by publication date - all time

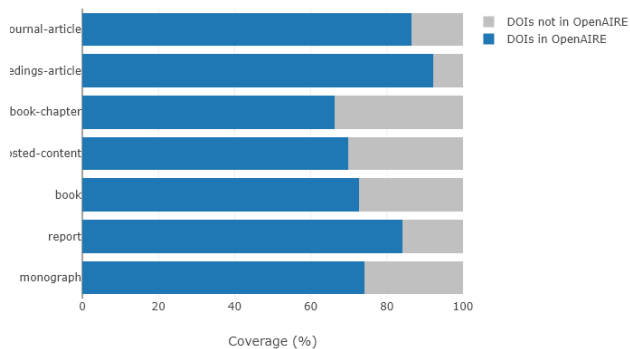


coverage by publication type - all time

## By year and publication type - OpenAIRE



coverage by publication date - all time

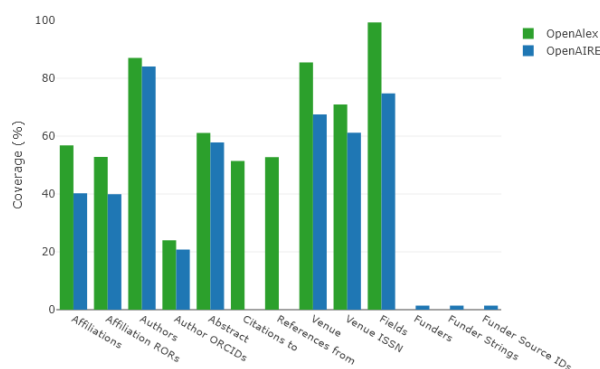


coverage by publication type - all time

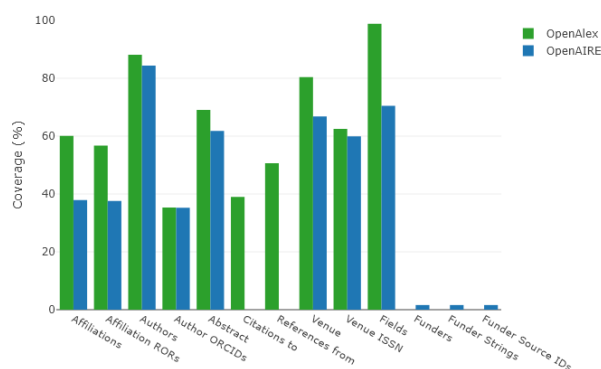
# Comparing value add of OpenAlex and OpenAIRE

## Overview

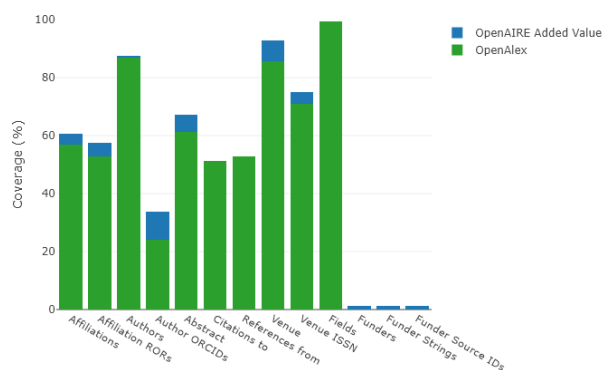
Coverage of metadata types in OpenAlex and OpenAIRE (for Crossref DOIs)



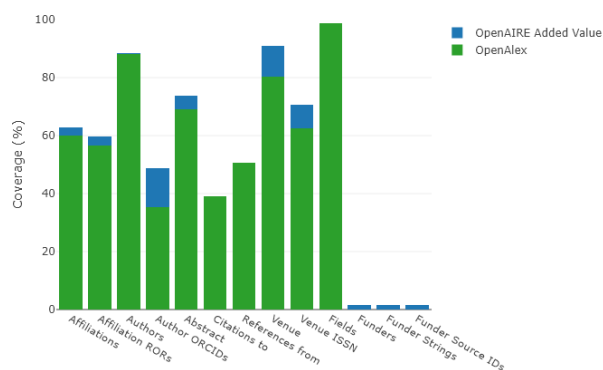
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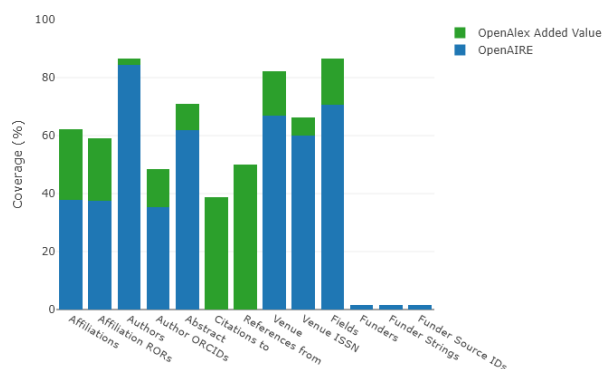
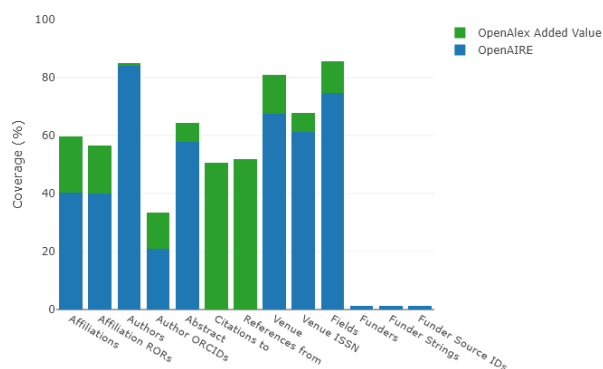
coverage comparison - 2021



coverage added value - all time



coverage added value - 2021



coverage added value - all time

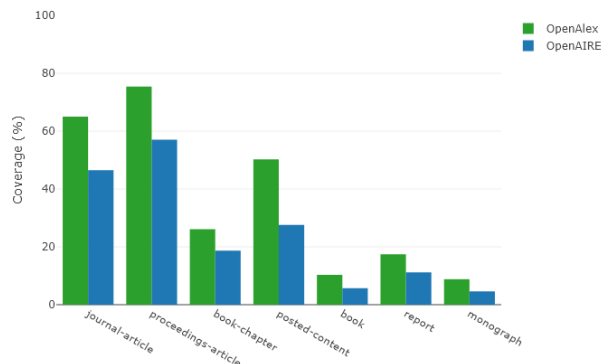
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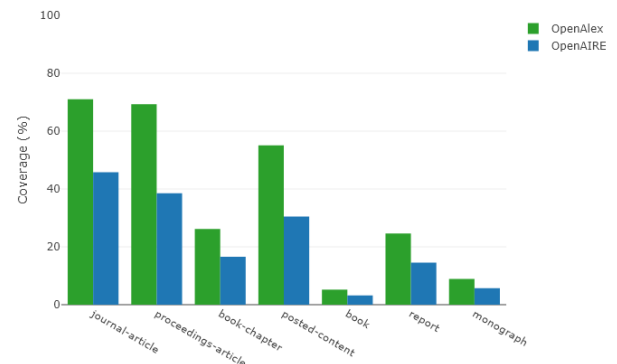
## Details

Metadata coverage in OpenAlex and OpenAIRE by publication type (for Crossref DOIs)

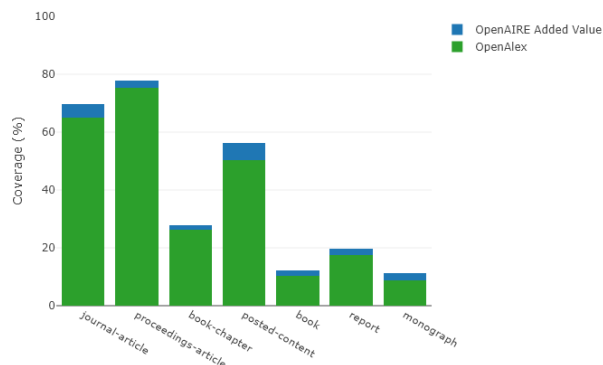
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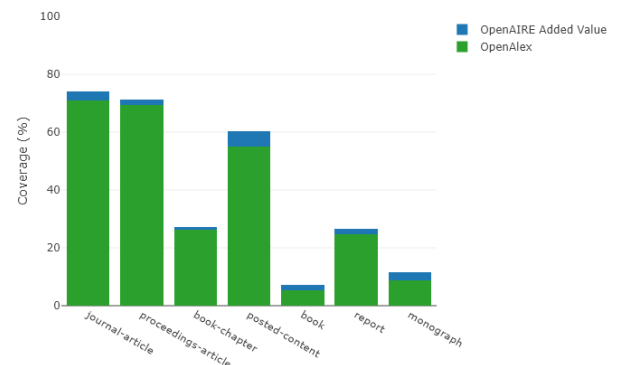
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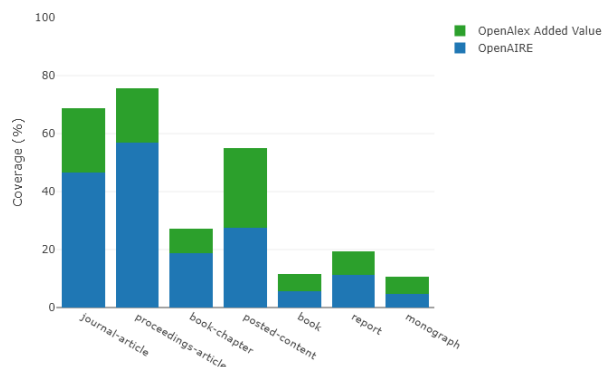
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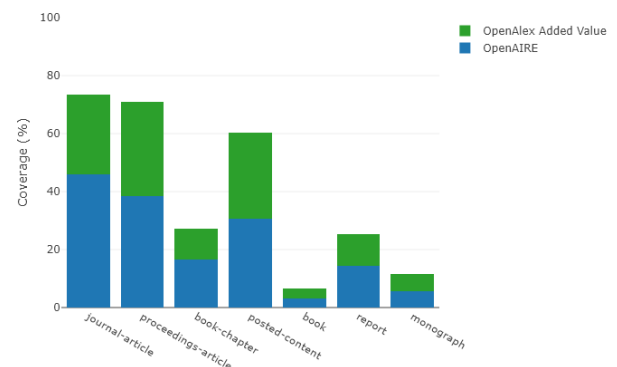
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coverage added value - 2021

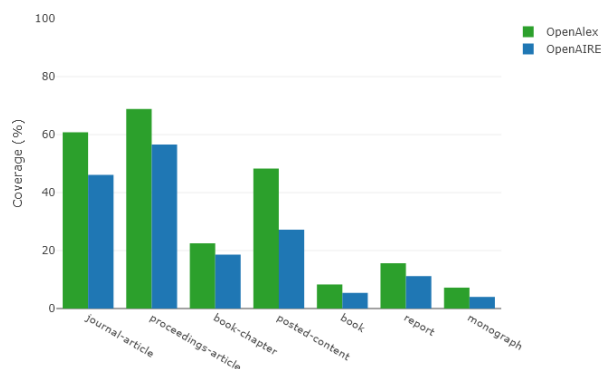


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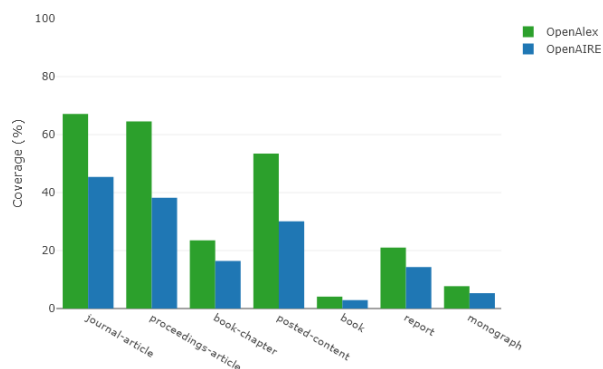


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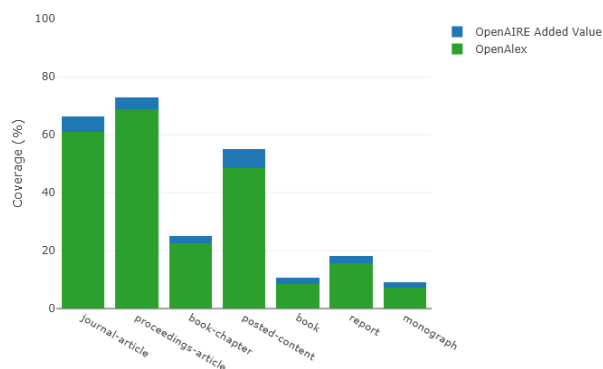
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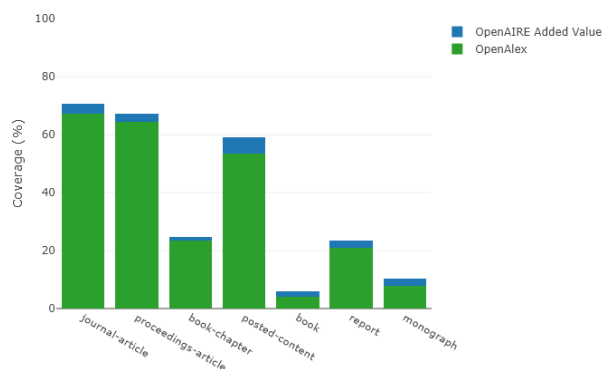
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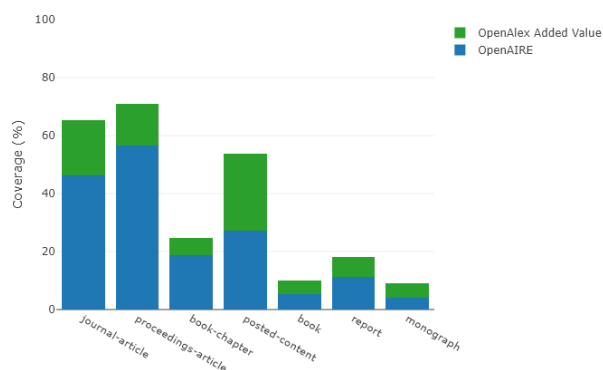
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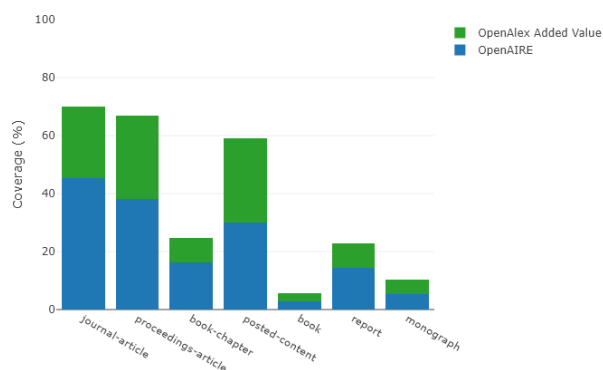
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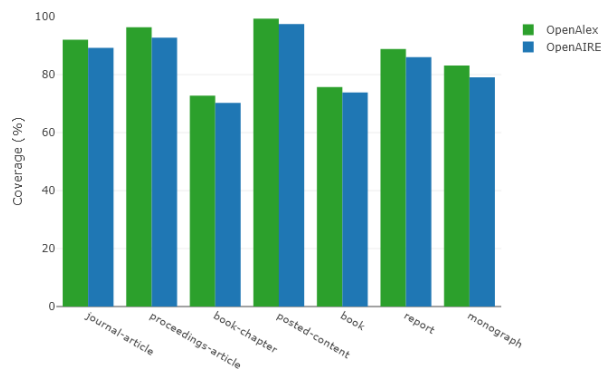


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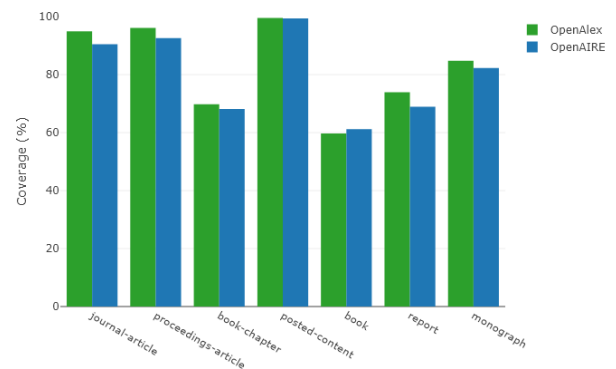


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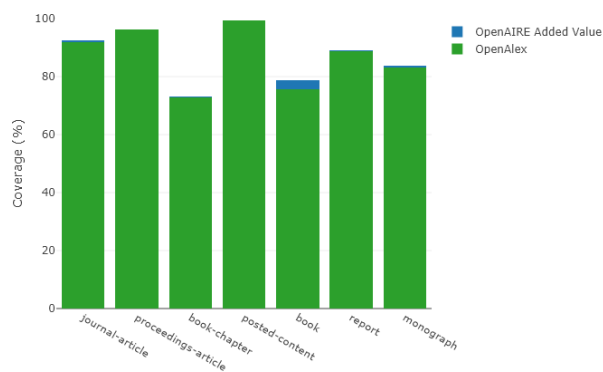
## Authors



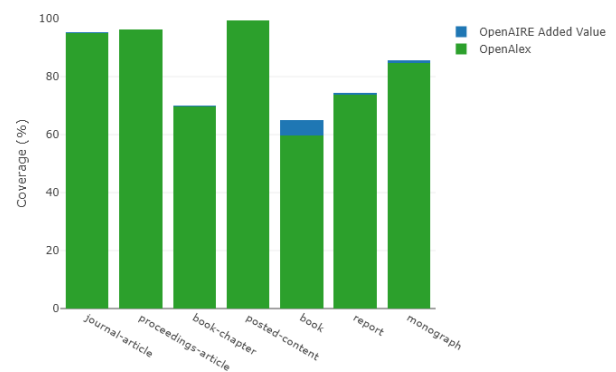
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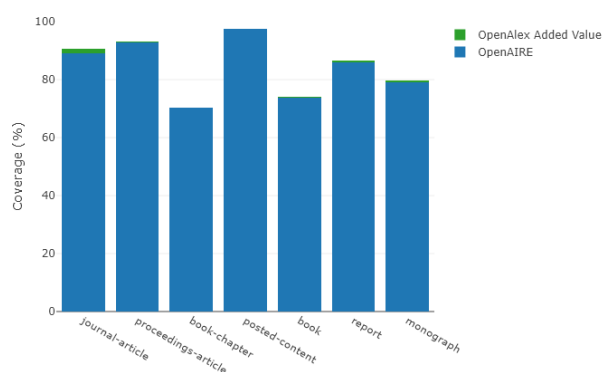
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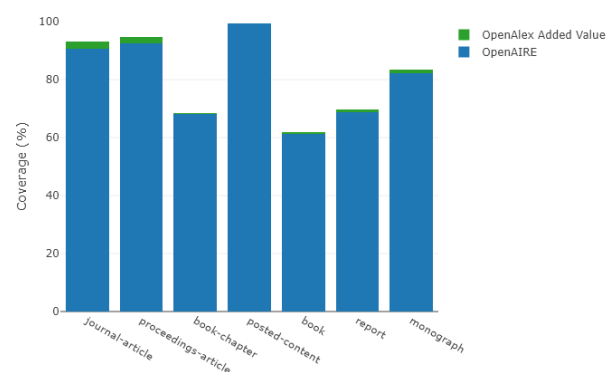
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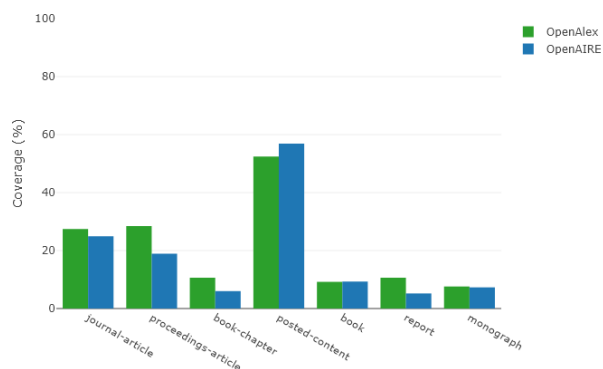


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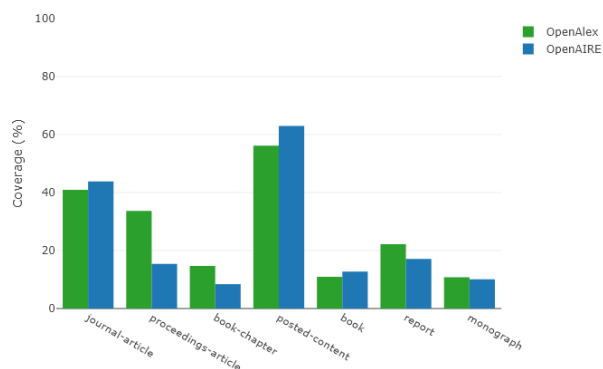


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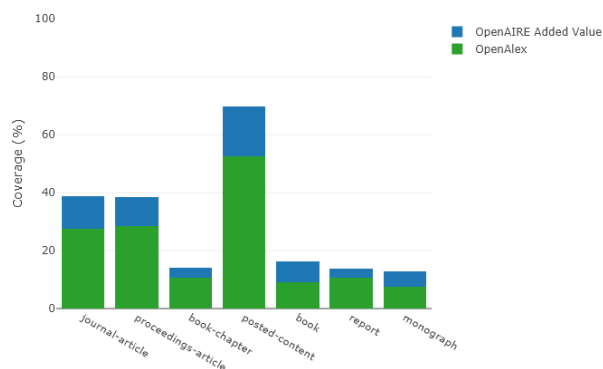
## Author ORCIDs



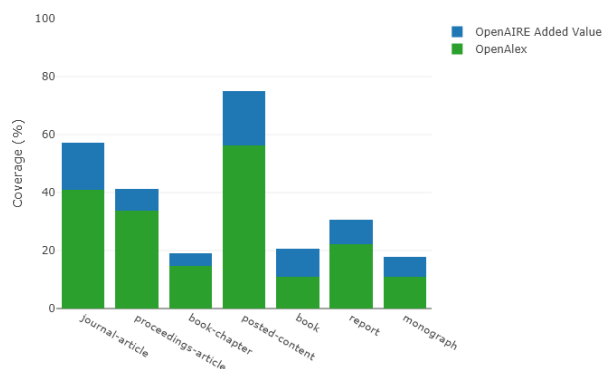
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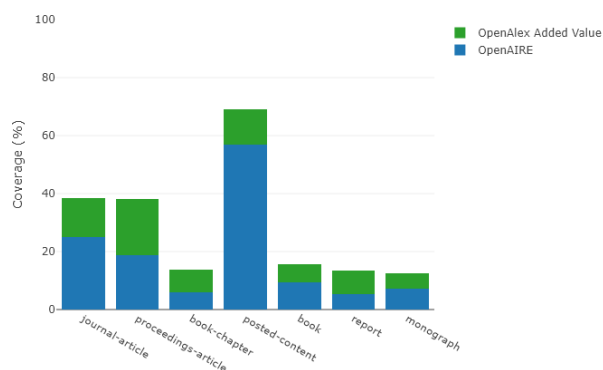
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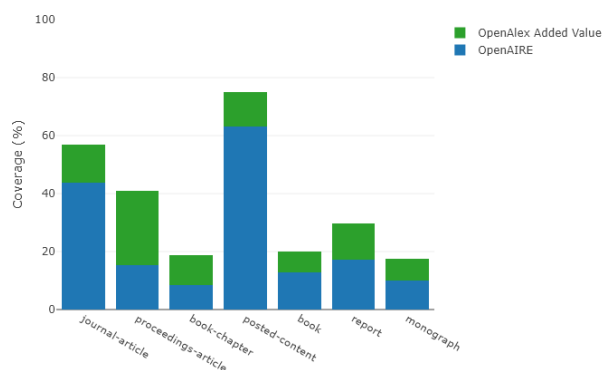
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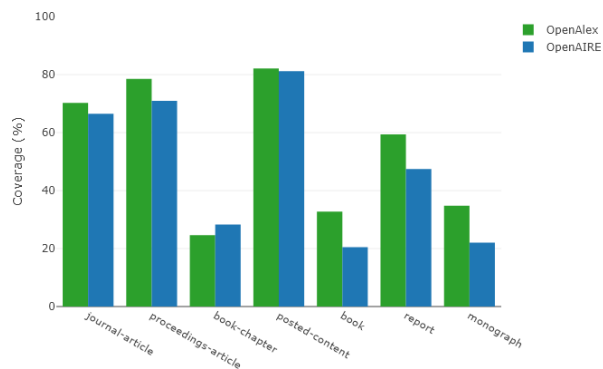


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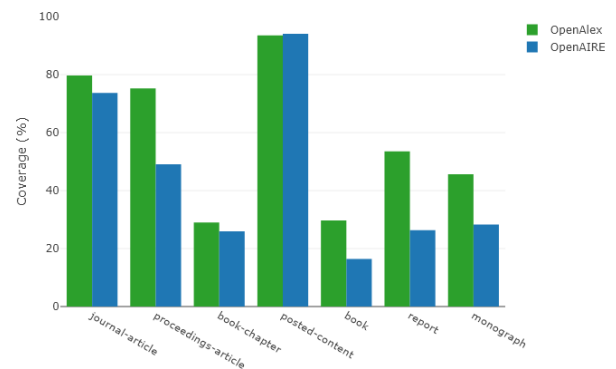


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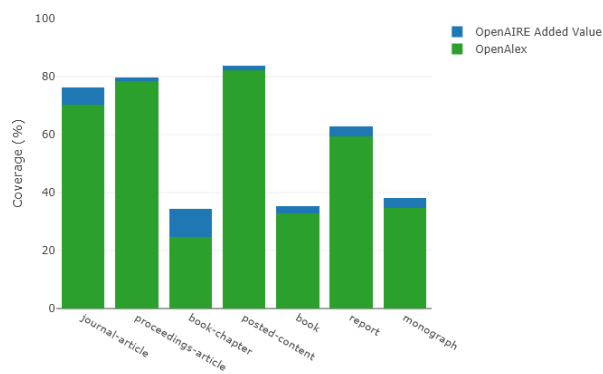
## Abstract



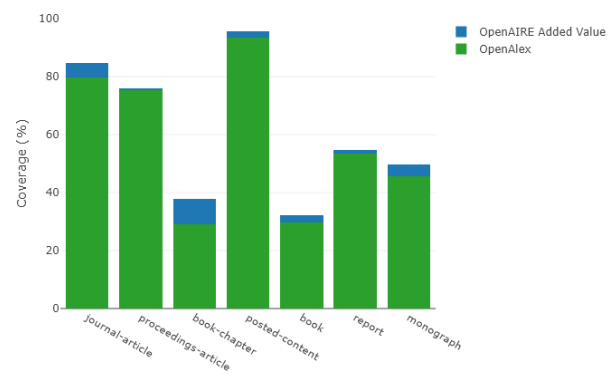
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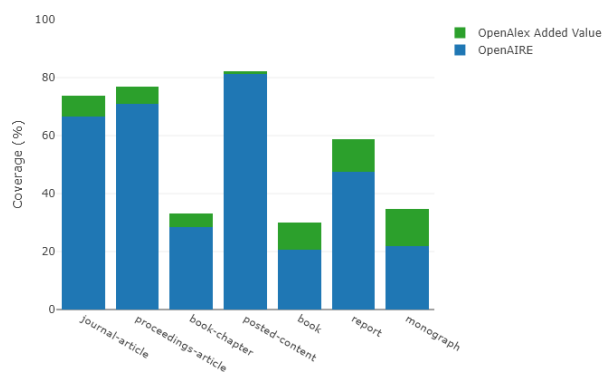
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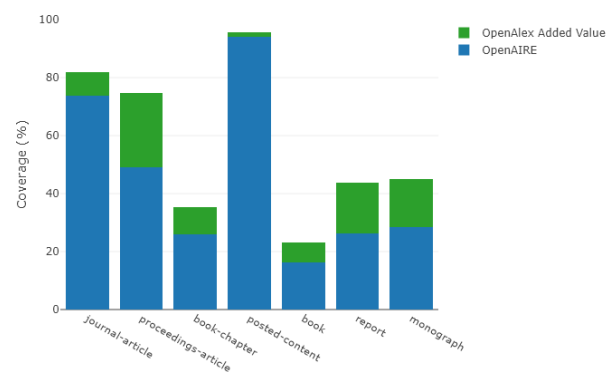
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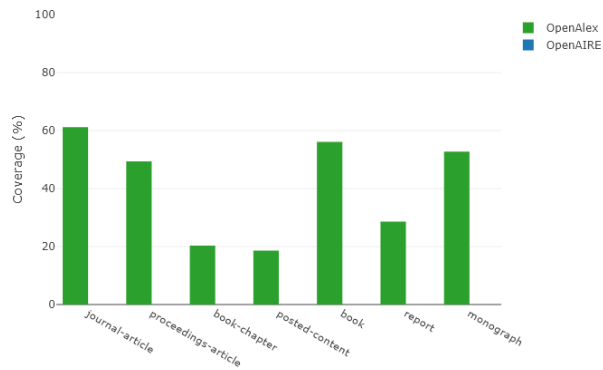


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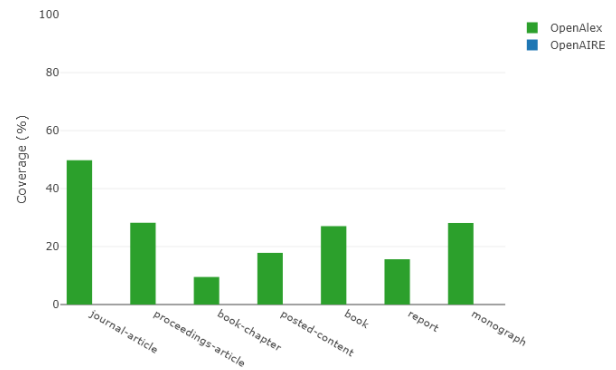


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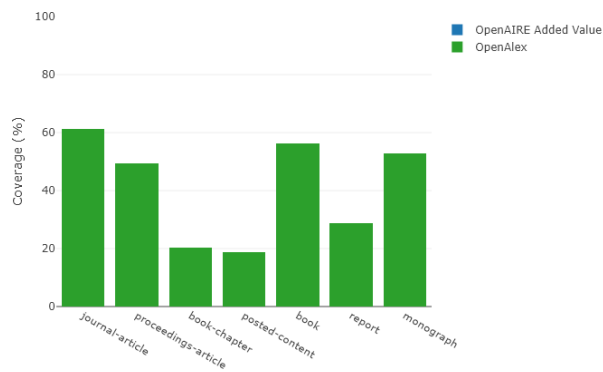
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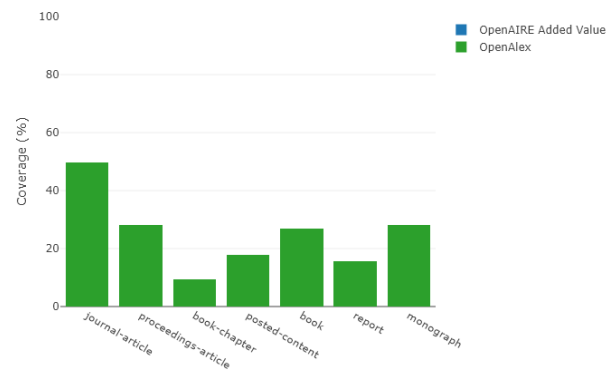
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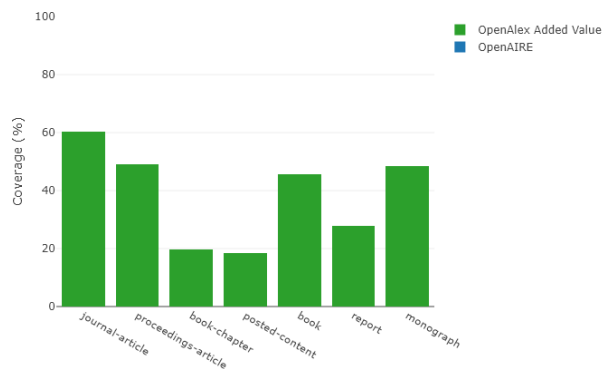
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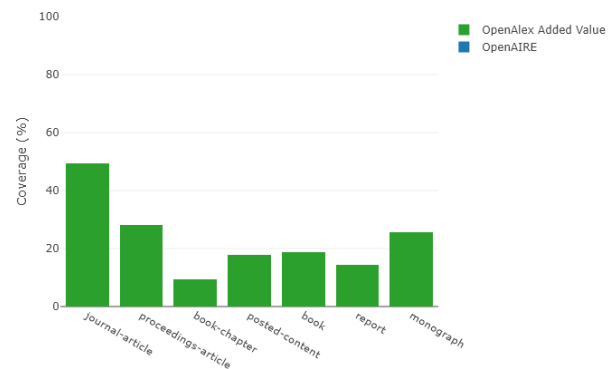
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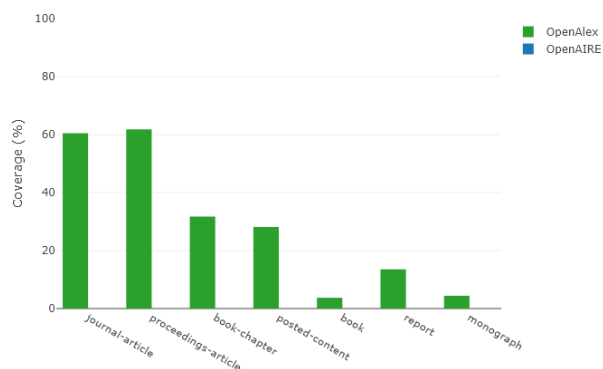


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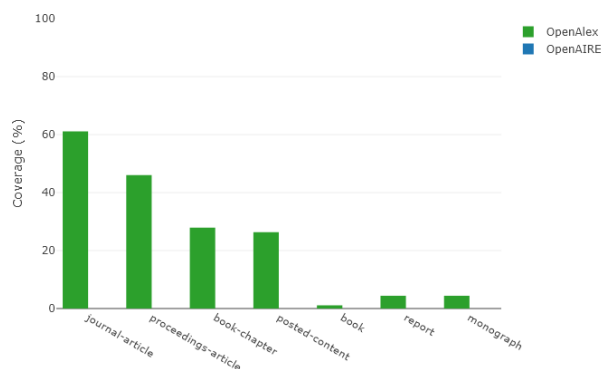


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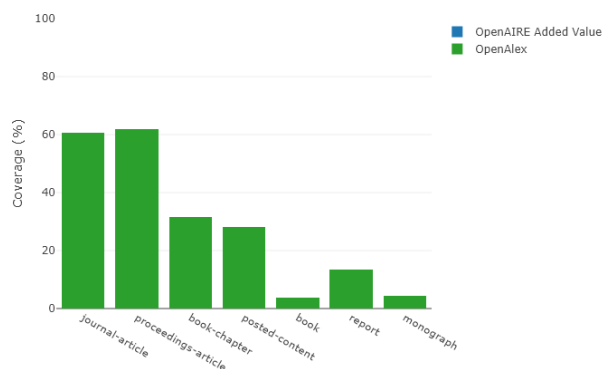
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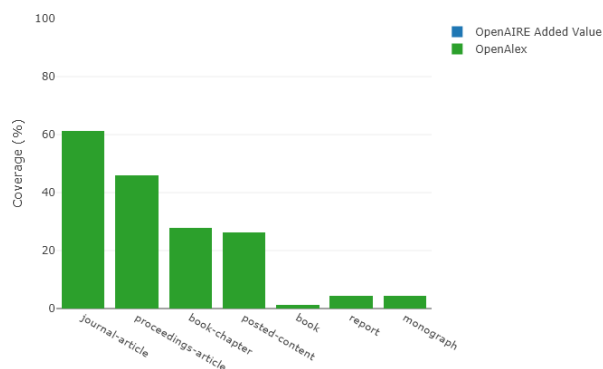
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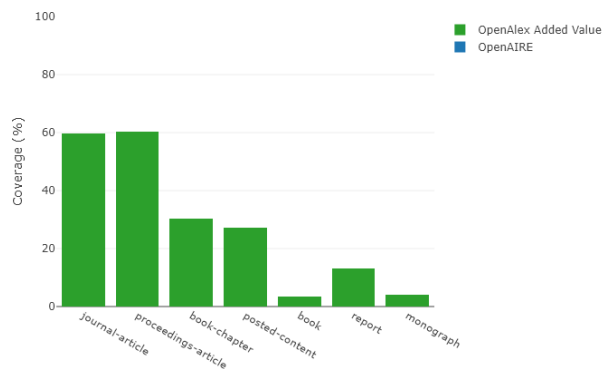
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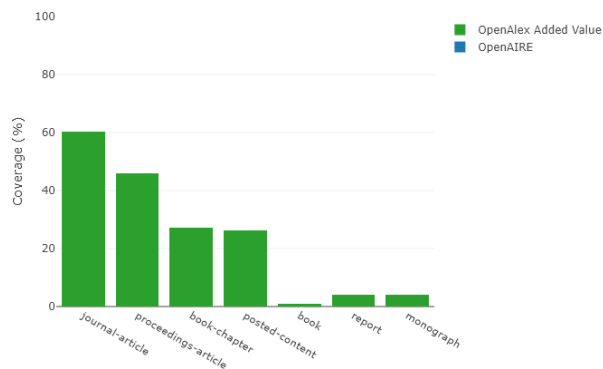
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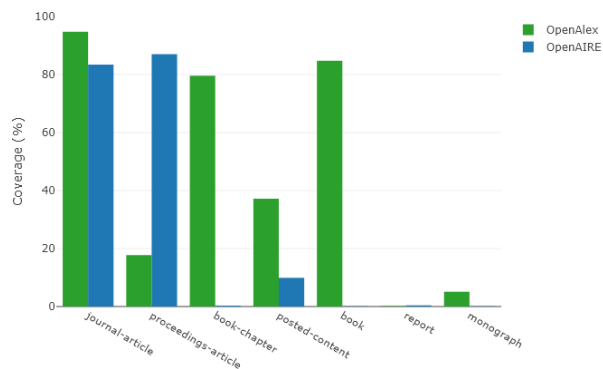


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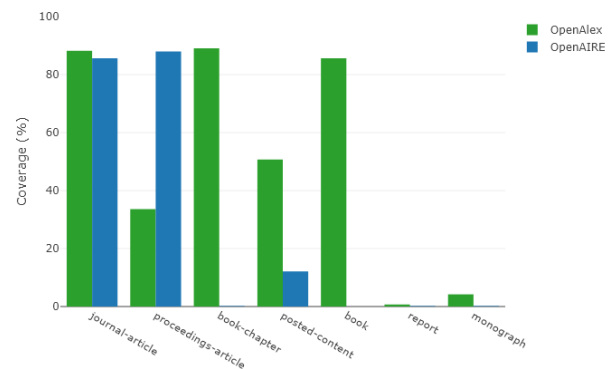


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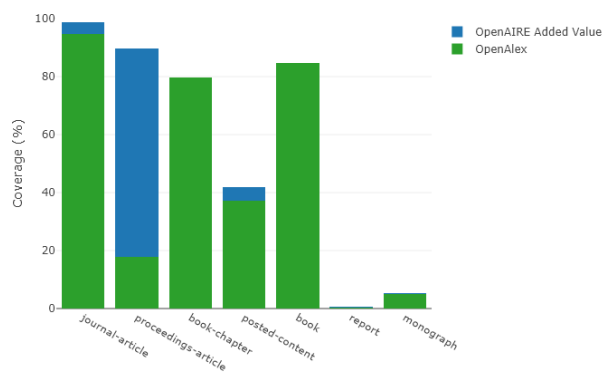
## Venue



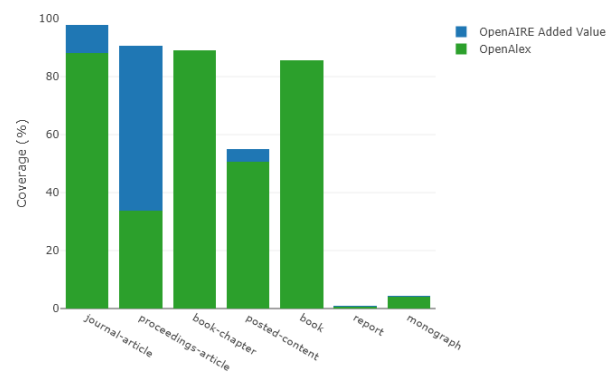
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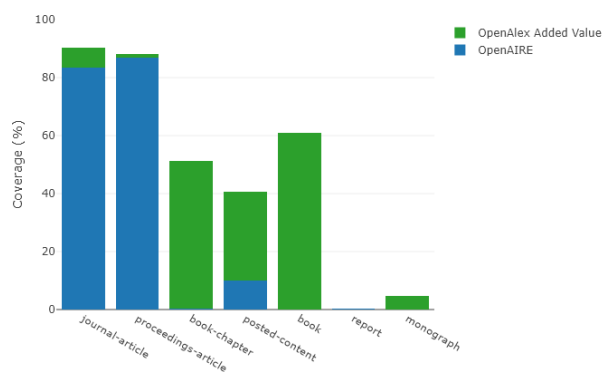
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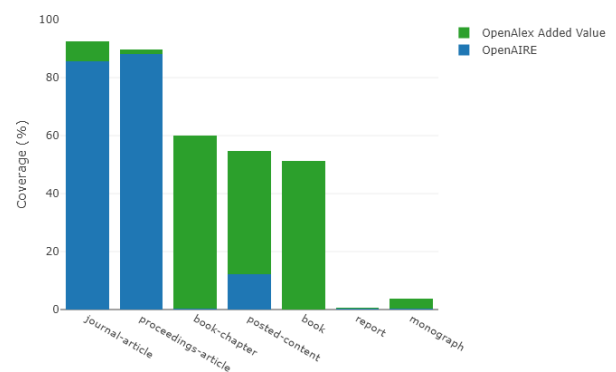
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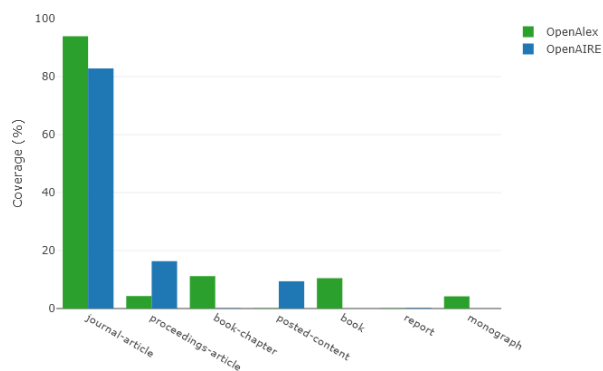
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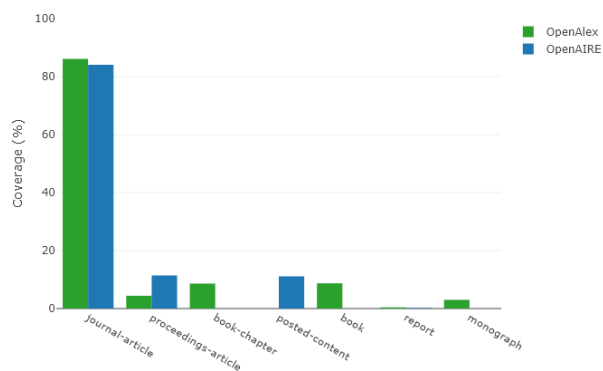
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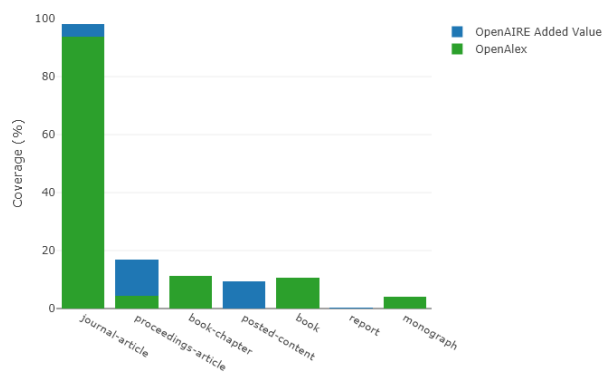
## Venue ISSN



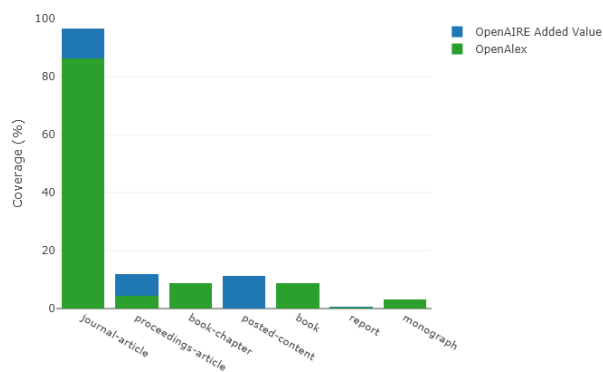
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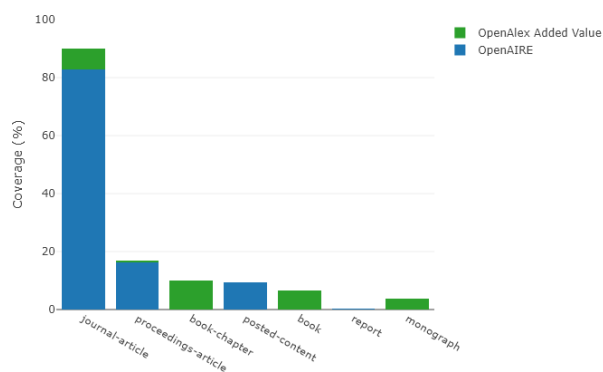
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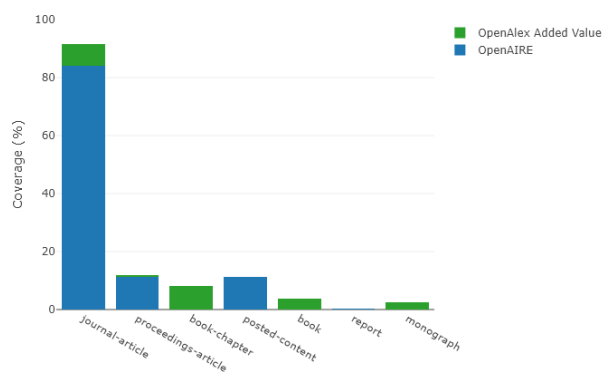
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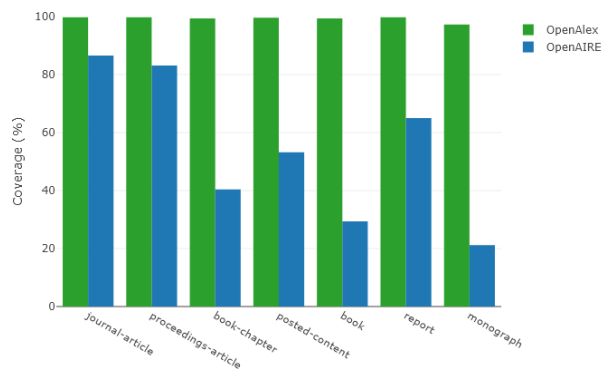


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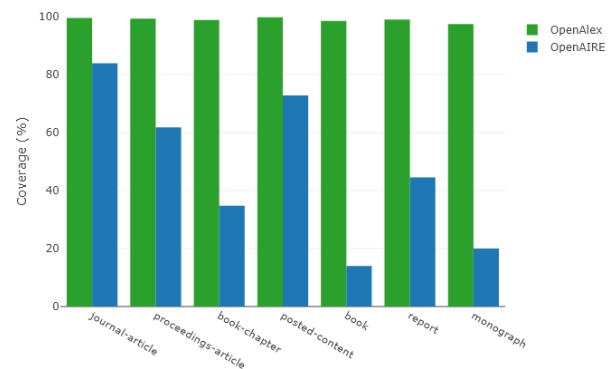


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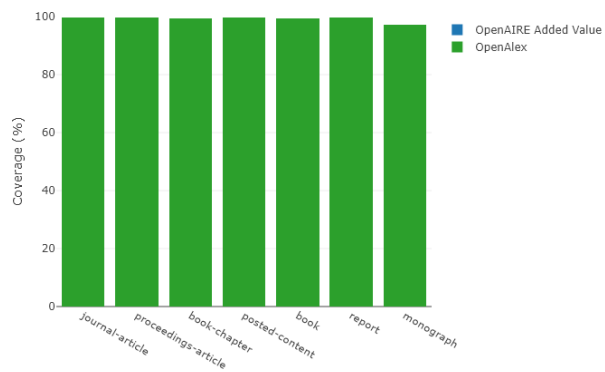
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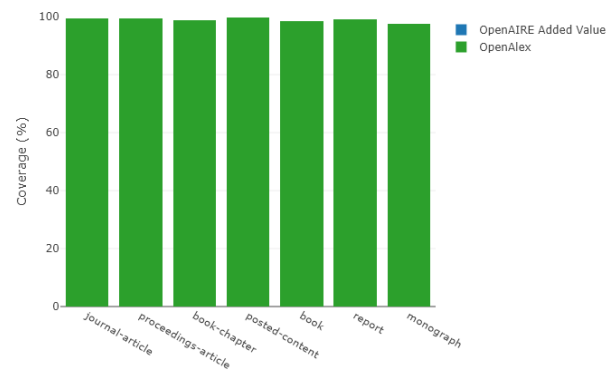
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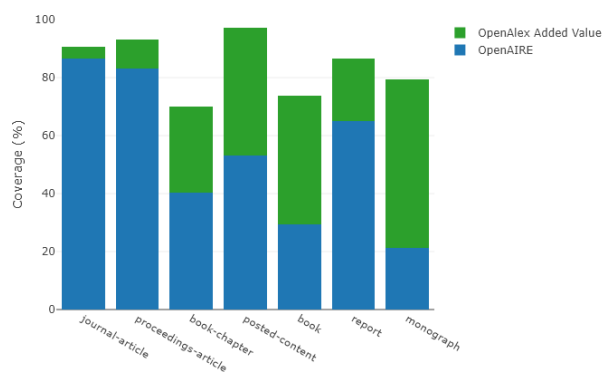
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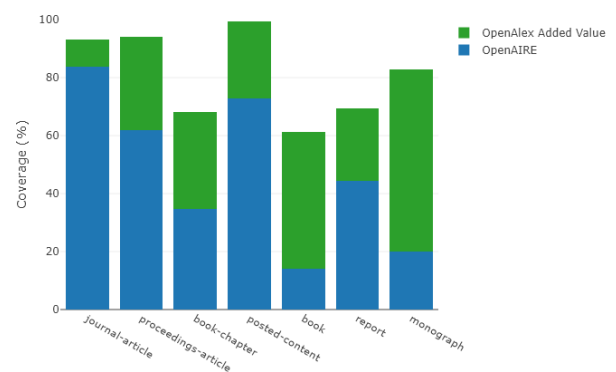
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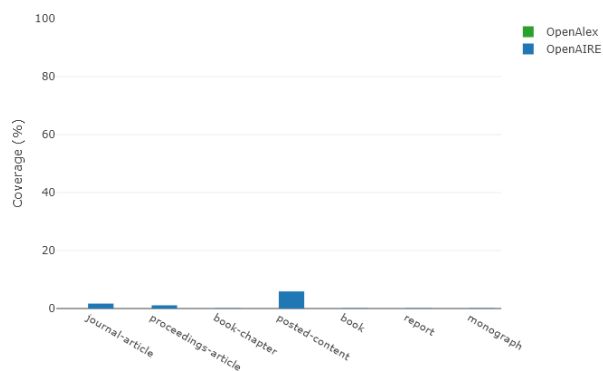


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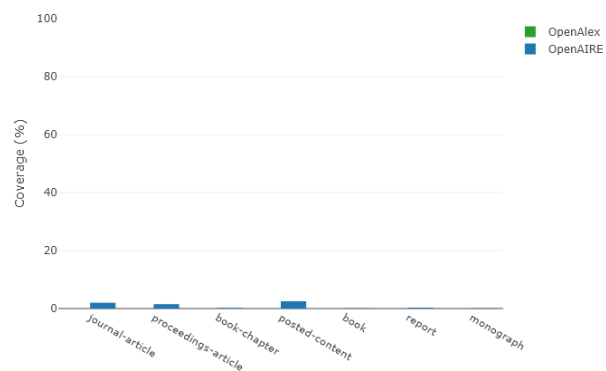


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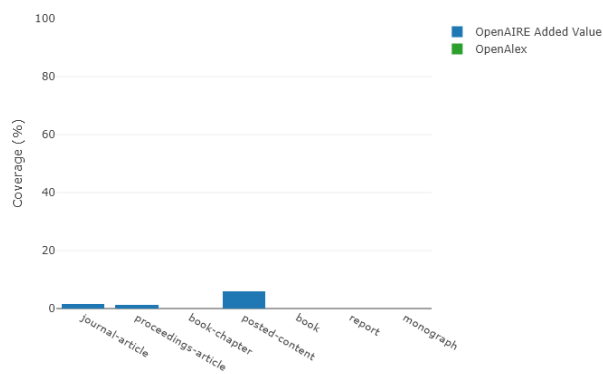
## Funders



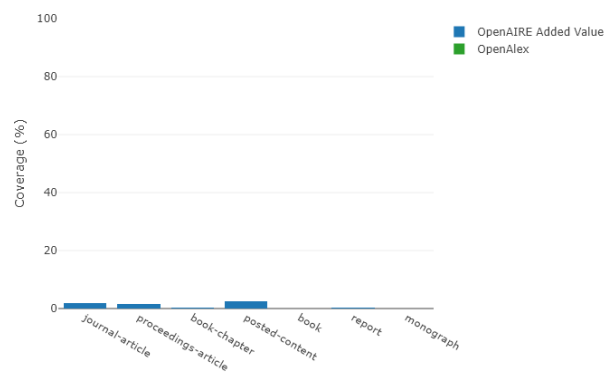
coverage comparison - all time



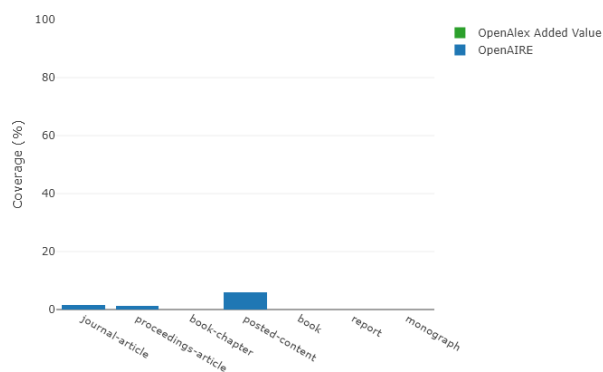
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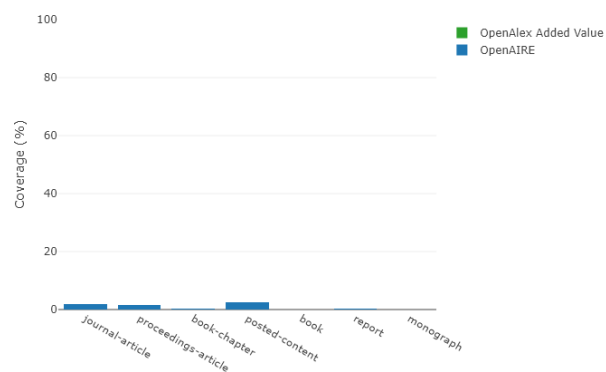
coverage added value - all time



coverage added value - 2021

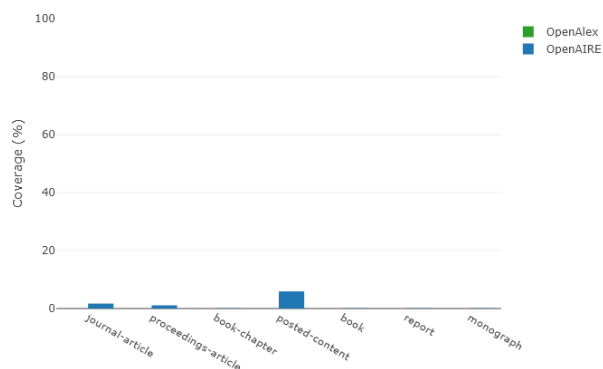


coverage added value - all time

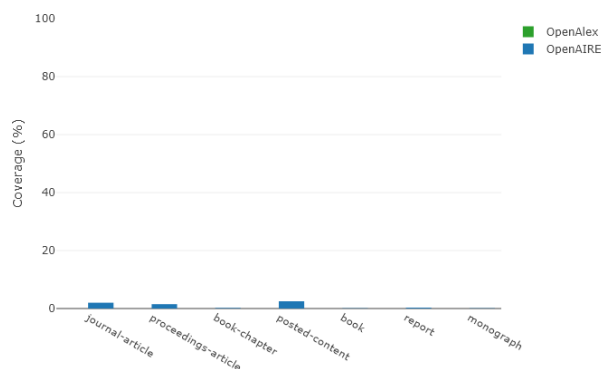


coverage added value - 2021

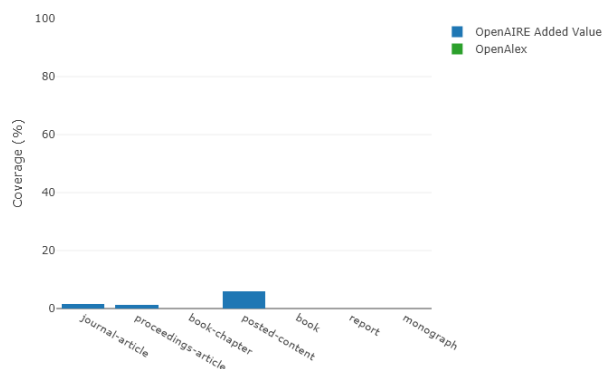
## Funder Strings



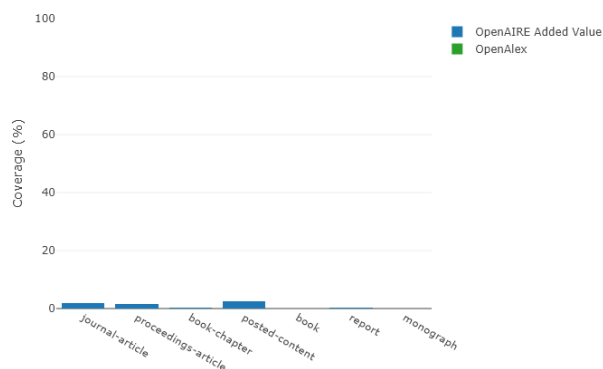
coverage comparison - all time



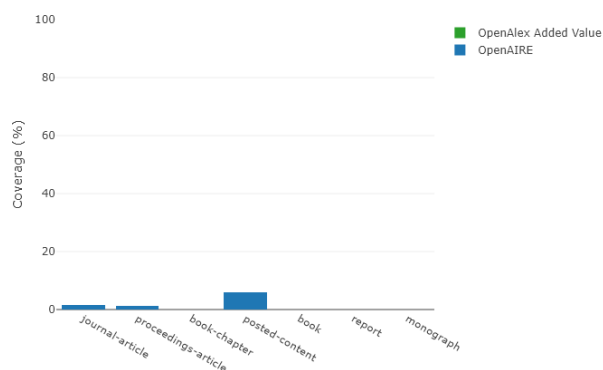
coverage comparison - 2021



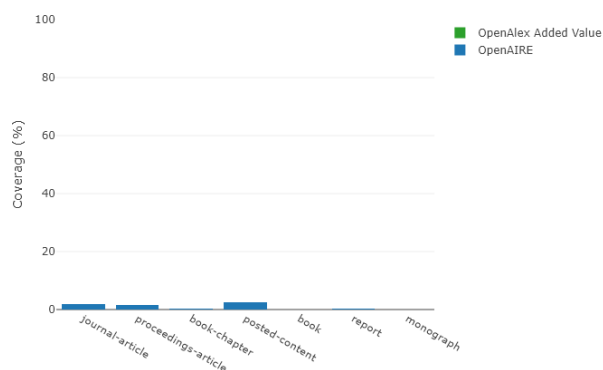
coverage added value - all time



coverage added value - 2021

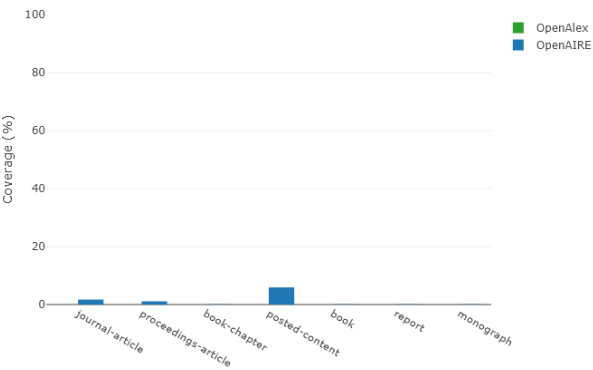


coverage added value - all time

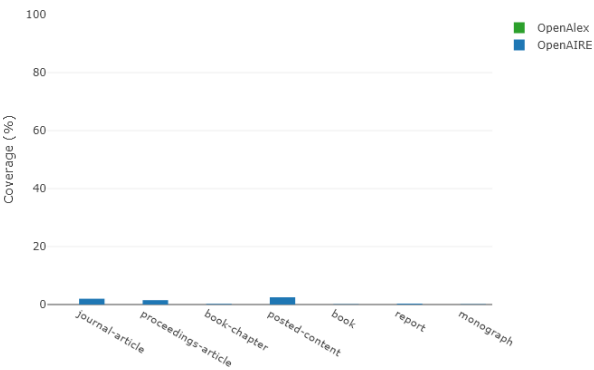


coverage added value - 2021

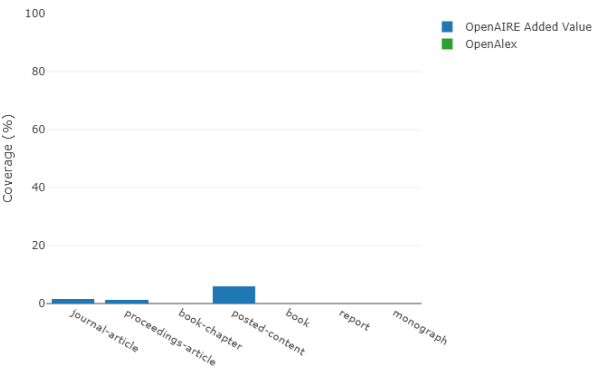
# Funder Source IDs



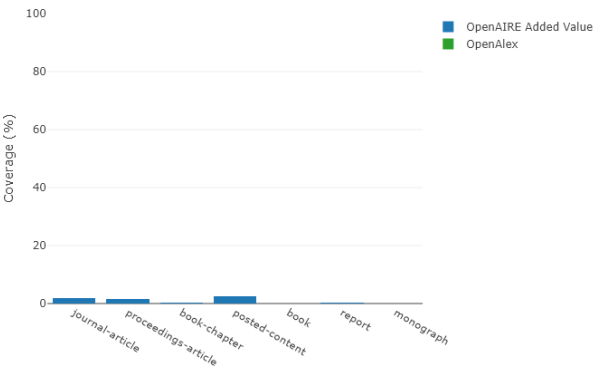
coverage comparison - all time



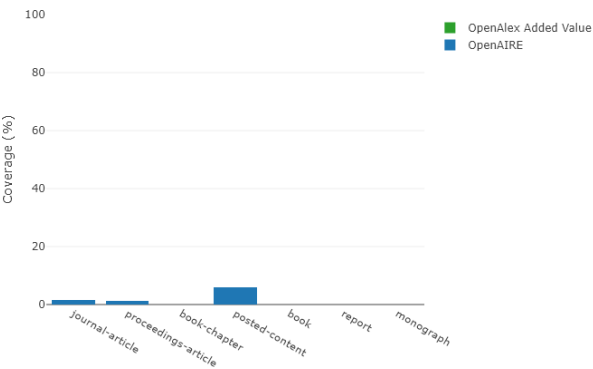
coverage comparison - 2021



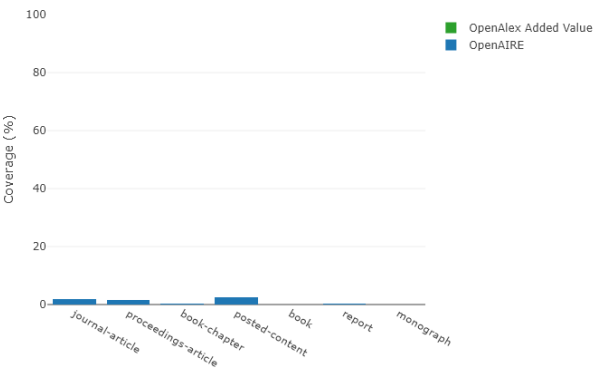
coverage added value - all time



coverage added value - 2021



coverage added value - all time

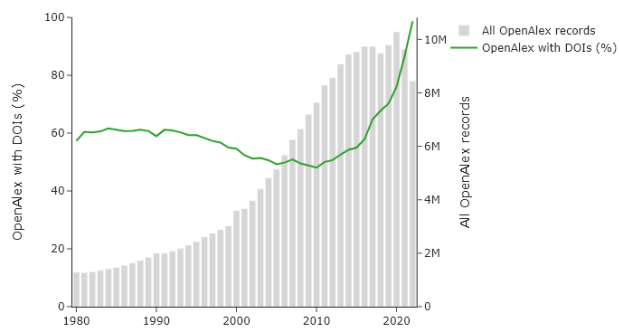


coverage added value - 2021

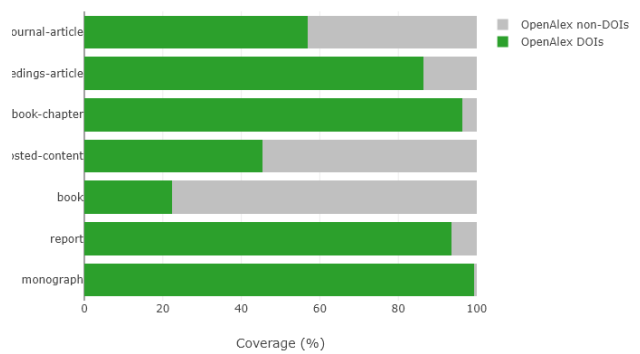
# OpenAlex Coverage Beyond DOIs

## DOIs vs non-DOIs

By year and publication type



coverage by publication date - all time

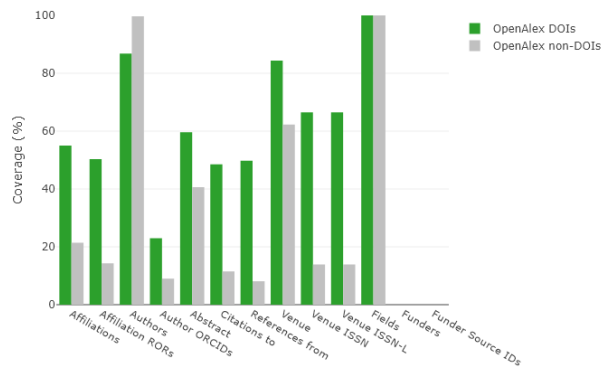


coverage by publication type - all time

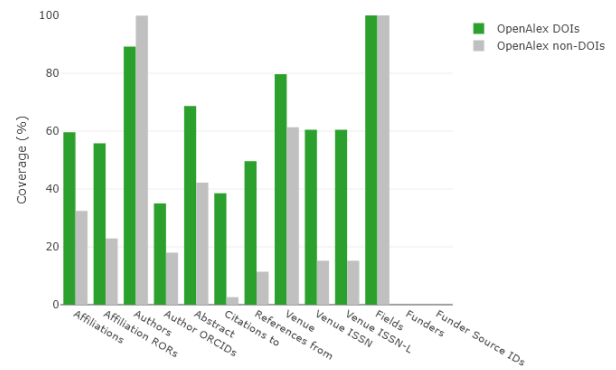
# Metadata Coverage

## Overview

Comparing coverage of metadata types for DOIs and non-DOIs in OpenAlex



coverage comparison - all time

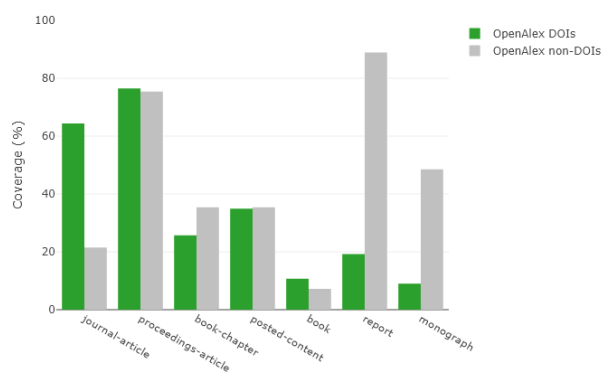


coverage comparison - 2021

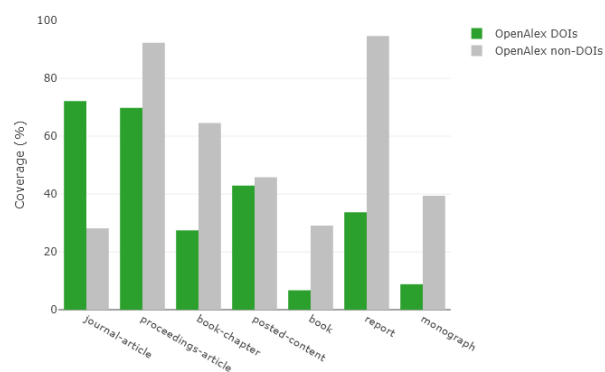
## Details

Metadata coverage for DOIs and non-DOIs by publication type

## Affiliations

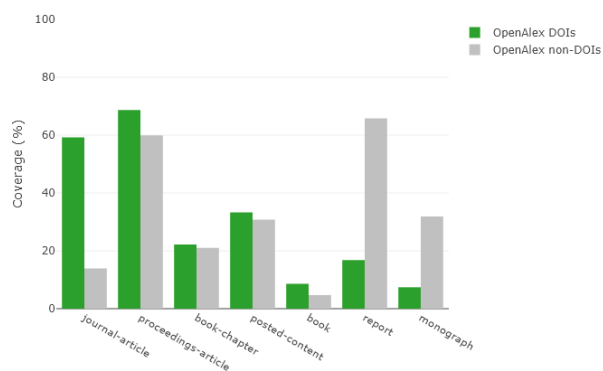


coverage comparison - all time

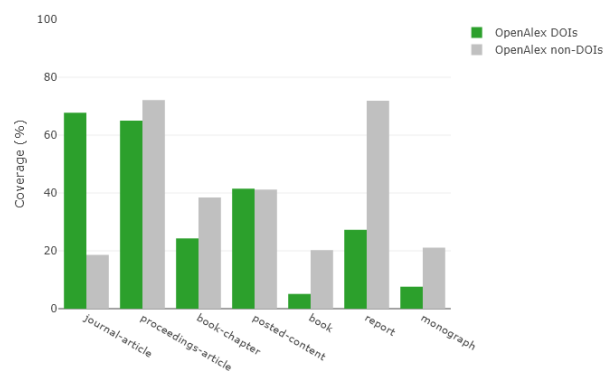


coverage comparison - 2021

## Affiliation RORs



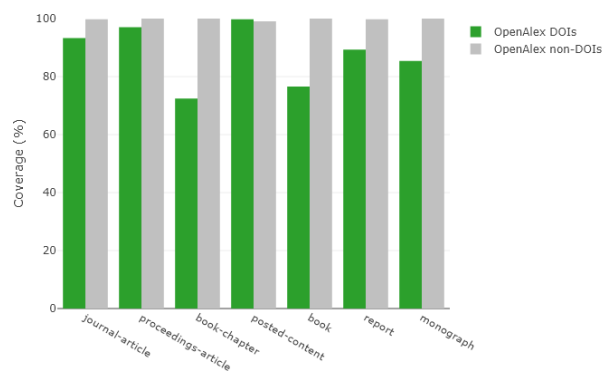
coverage comparison - all time



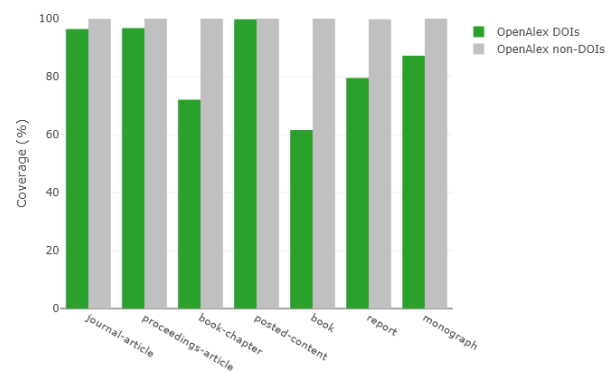
coverage comparison - 2021



## Authors

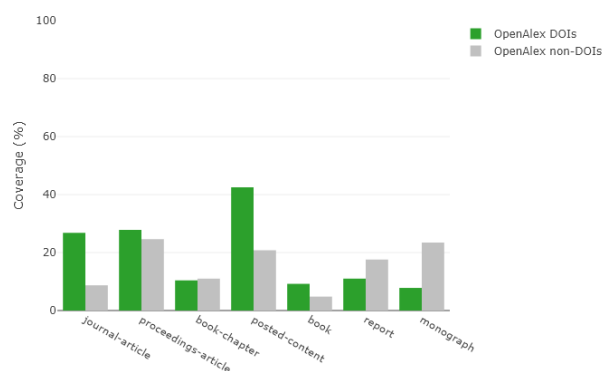


coverage comparison - all time

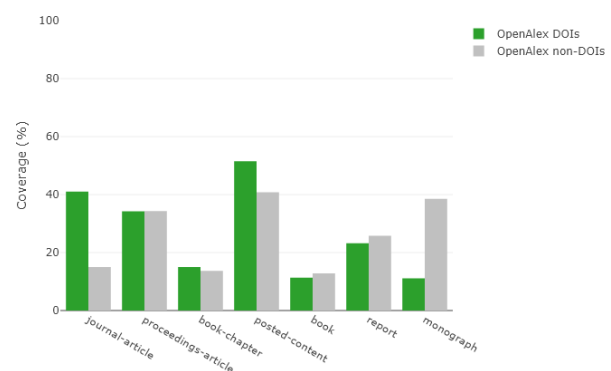


coverage comparison - 2021

## Author ORCIDs

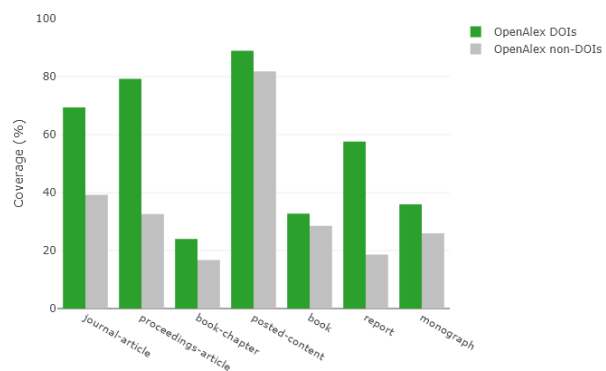


coverage comparison - all time

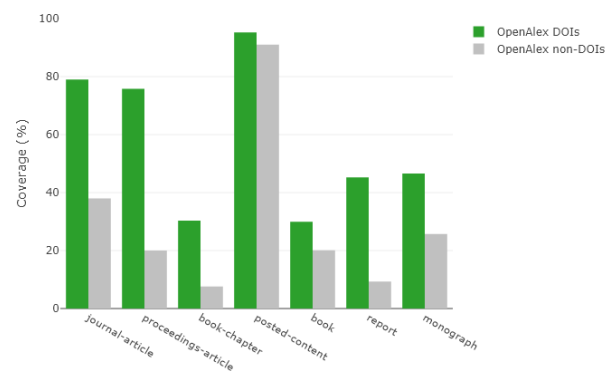


coverage comparison - 2021

## Abstract

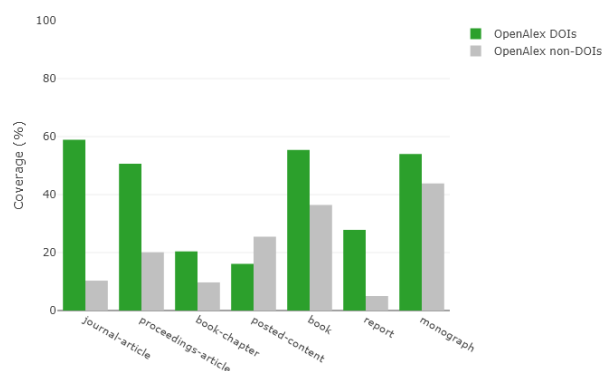


coverage comparison - all time

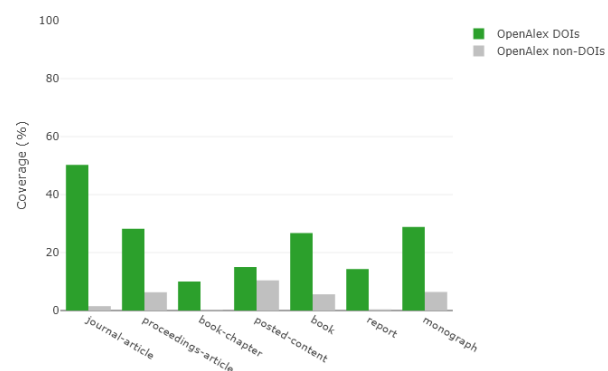


coverage comparison - 2021

## Citations to

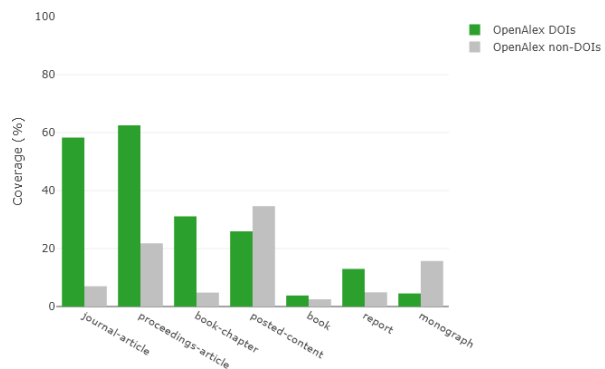


coverage comparison - all time

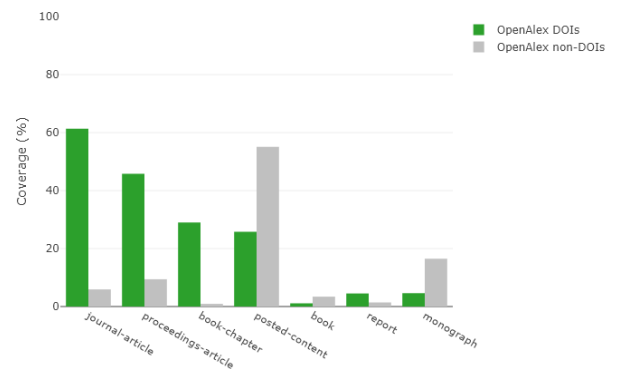


coverage comparison - 2021

## References from

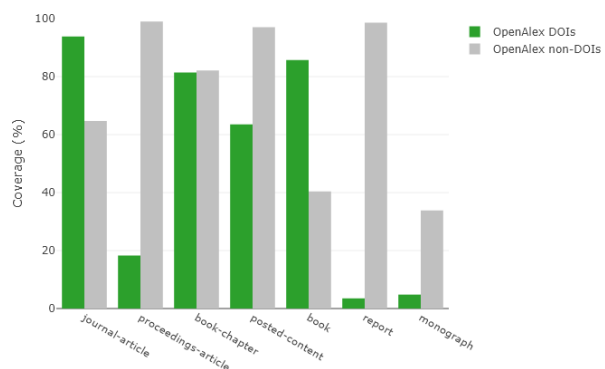


coverage comparison - all time

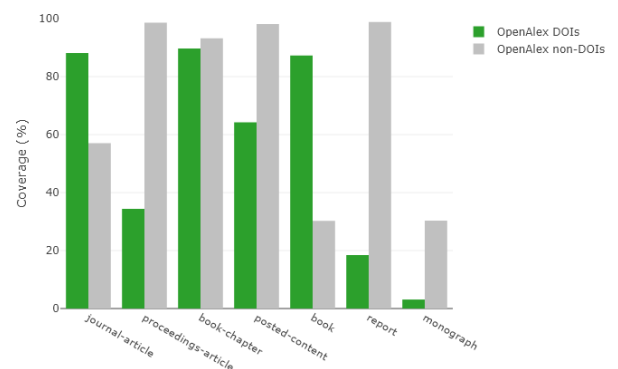


coverage comparison - 2021

## Venue

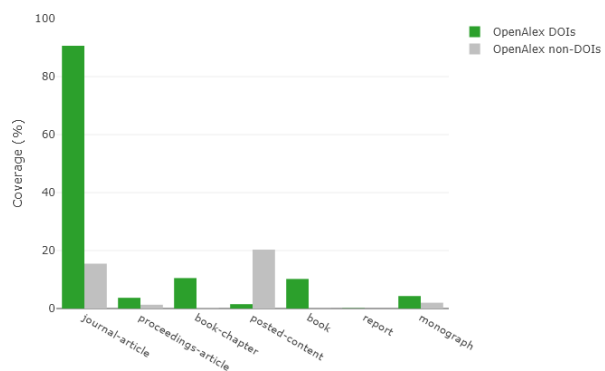


coverage comparison - all time

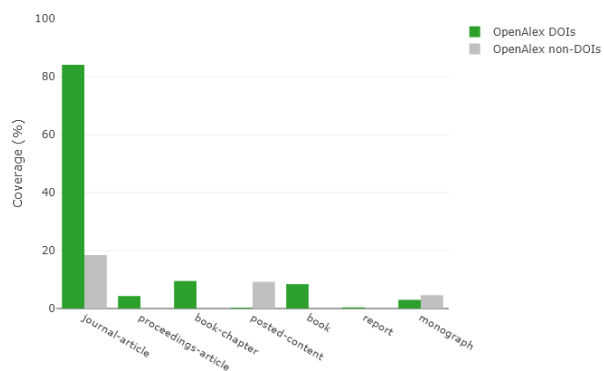


coverage comparison - 2021

## Venue ISSN

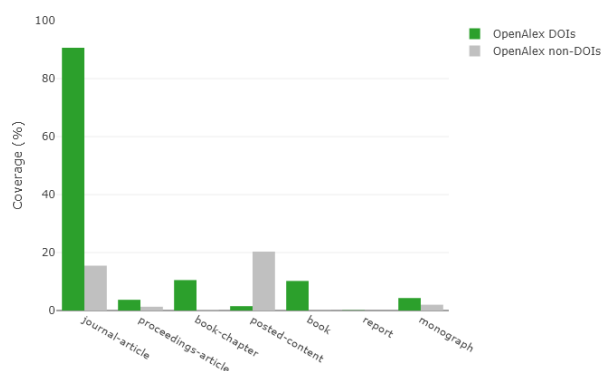


coverage comparison - all time

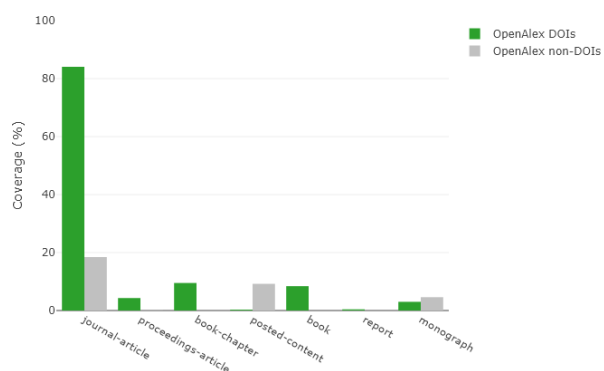


coverage comparison - 2021

## Venue ISSN-L

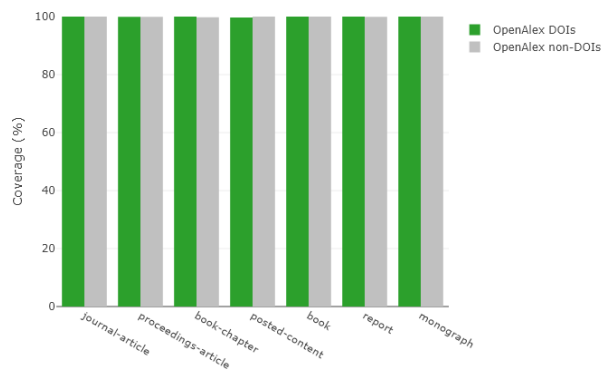


coverage comparison - all time

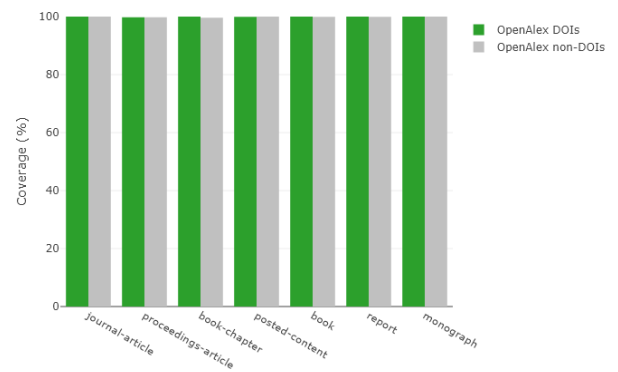


coverage comparison - 2021

## Fields

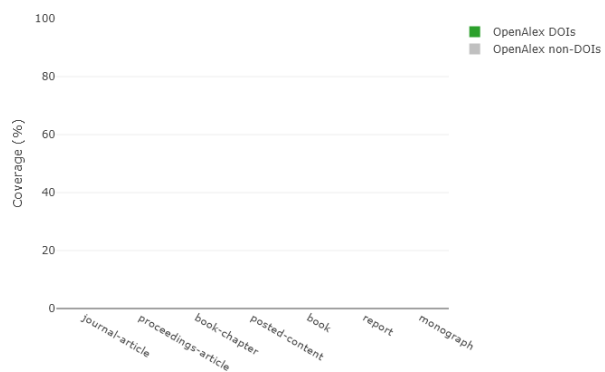


coverage comparison - all time

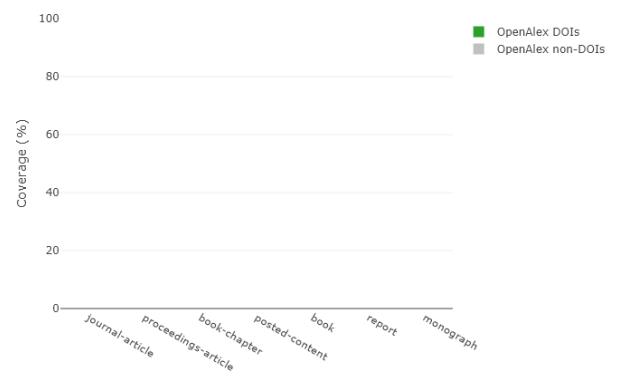


coverage comparison - 2021

## Funders

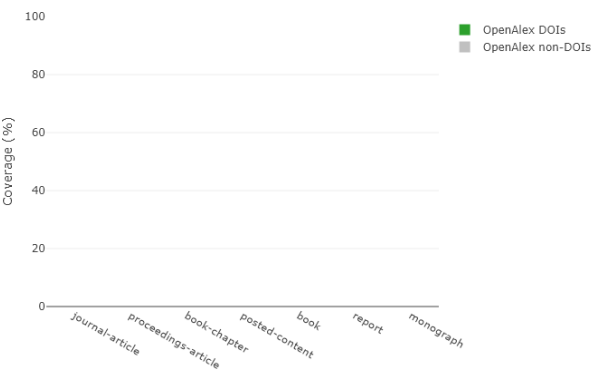


coverage comparison - all time

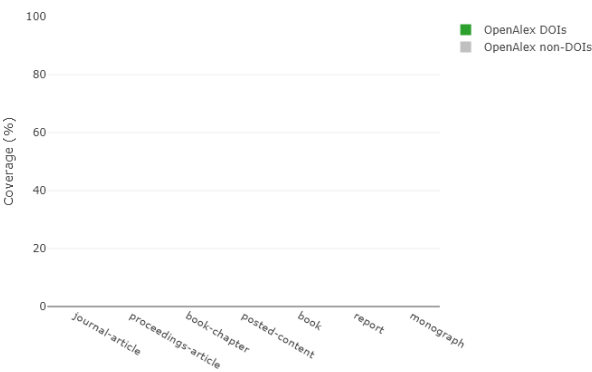


coverage comparison - 2021

Funder Source IDs



coverage comparison - all time

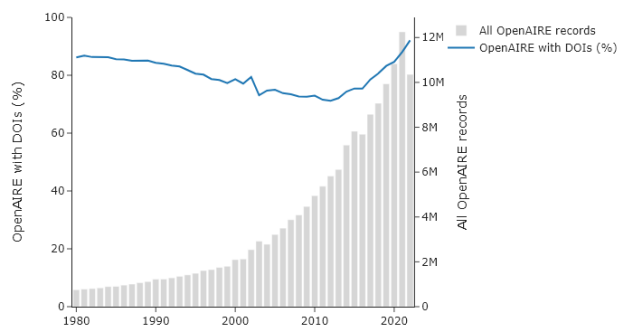


coverage comparison - 2021

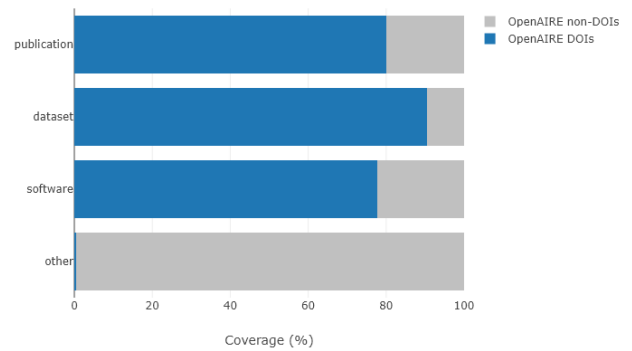
# OpenAIRE Coverage Beyond DOIs

## DOIs vs non-DOIs

By year and publication type



coverage by publication date - all time

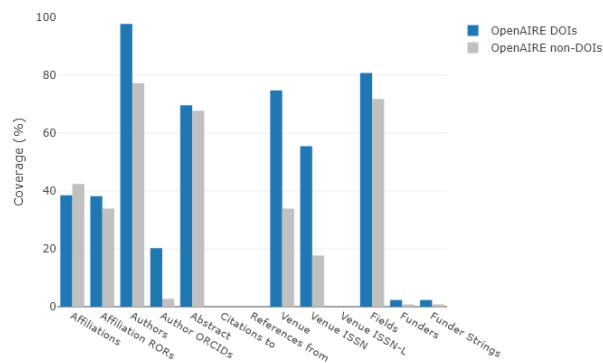


coverage by publication type - all time

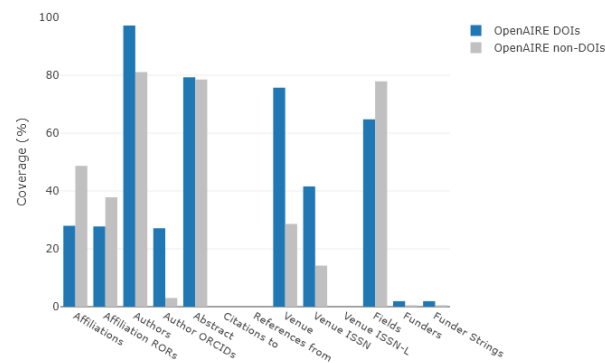
# Metadata Coverage

## Overview

Comparing coverage of metadata types for DOIs and non-DOIs in openaire\_



coverage comparison - all time



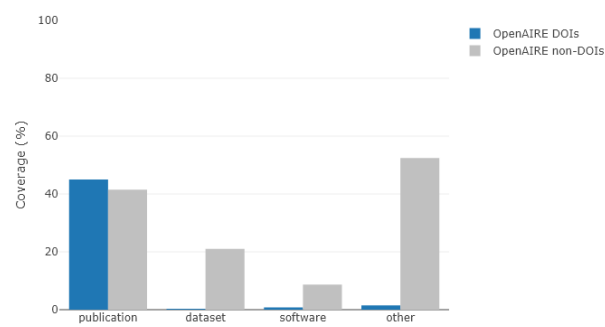
coverage comparison - 2021



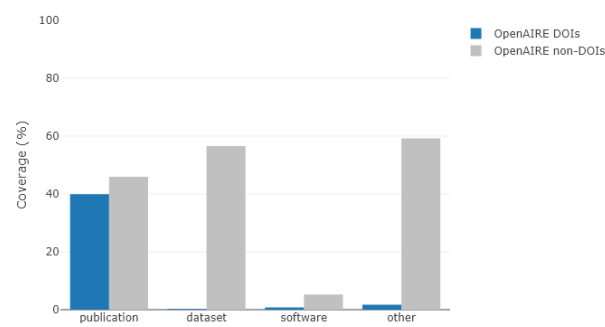
Details

Metadata coverage for DOIs and non-DOIs by publication type

Affiliations

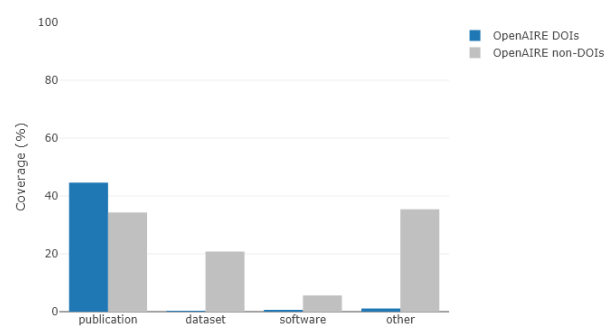


coverage comparison - all time

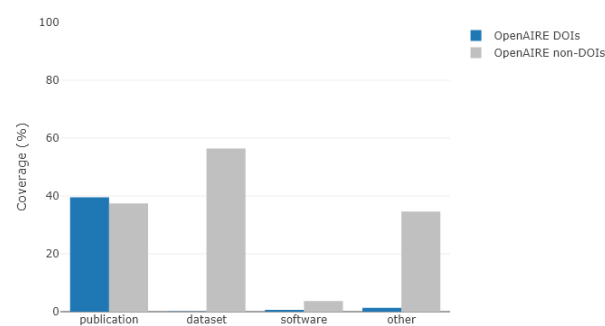


coverage comparison - 2021

Affiliation RORs

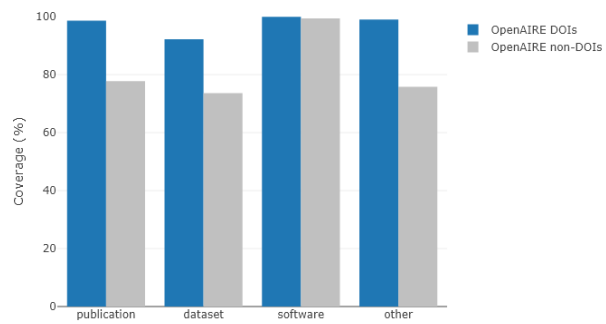


coverage comparison - all time

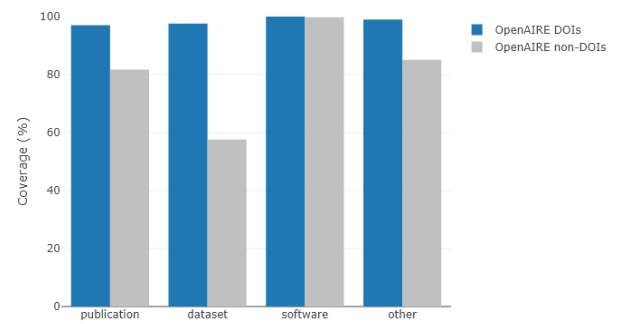


coverage comparison - 2021

## Authors

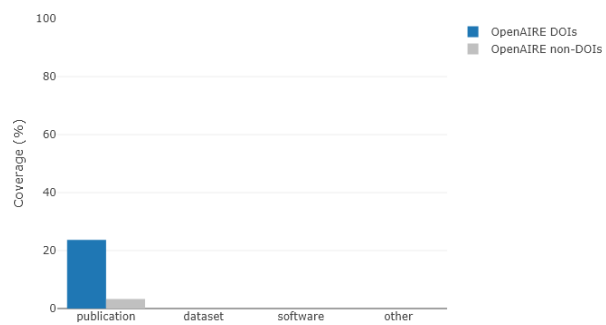


coverage comparison - all time

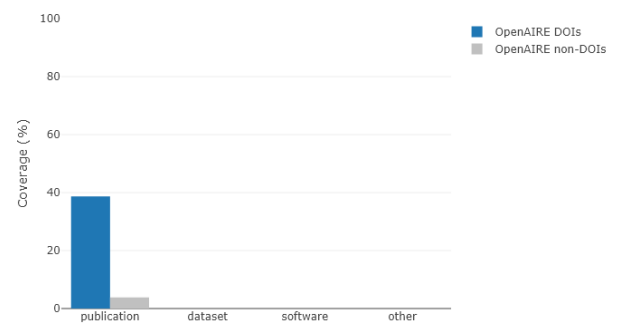


coverage comparison - 2021

## Author ORCIDs

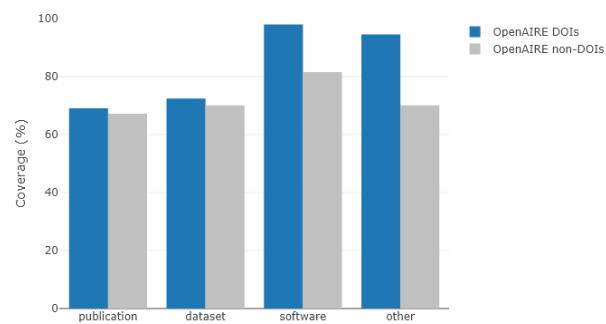


coverage comparison - all time

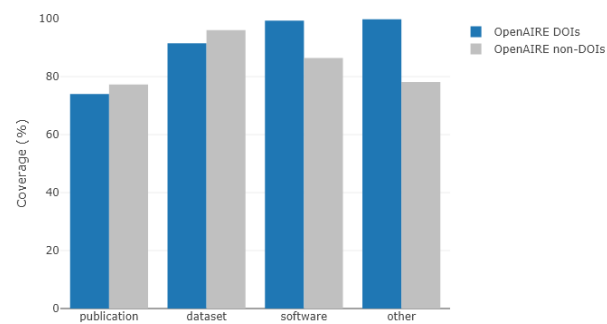


coverage comparison - 2021

Abstract

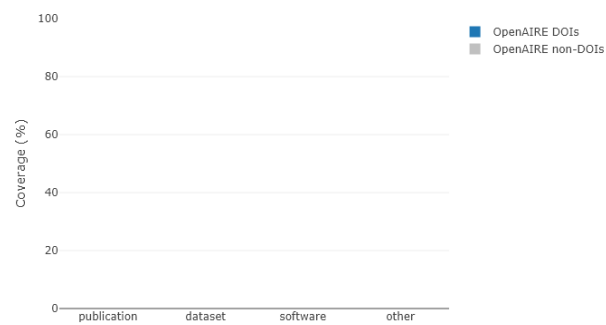


coverage comparison - all time

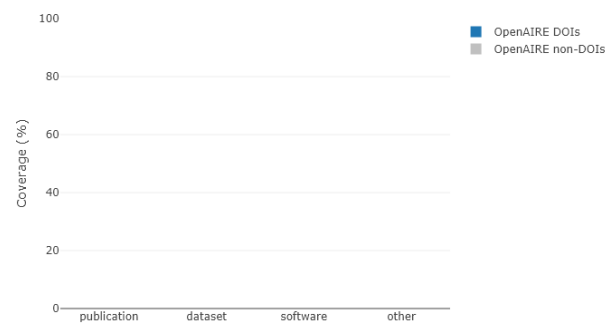


coverage comparison - 2021

Citations to

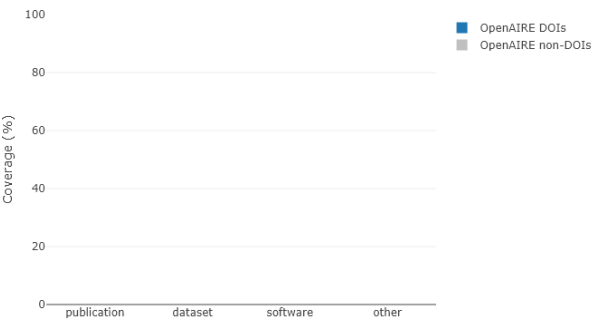


coverage comparison - all time

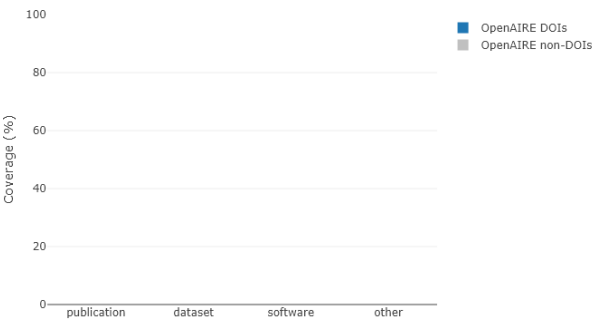


coverage comparison - 2021

References from

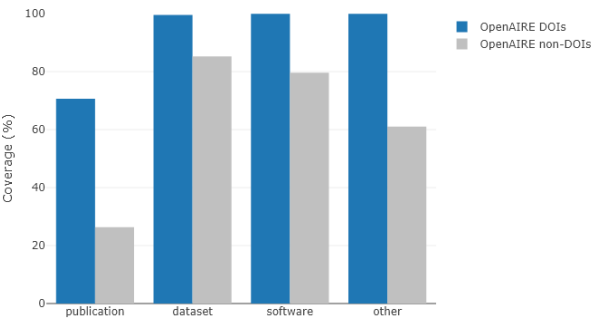


coverage comparison - all time

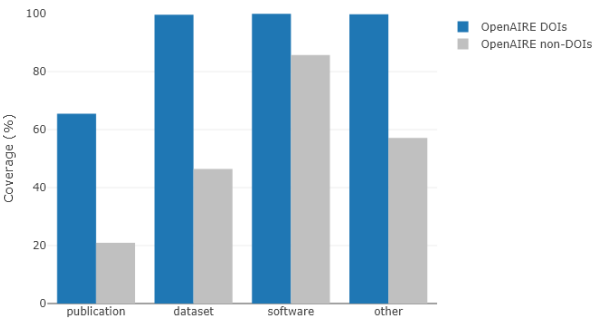


coverage comparison - 2021

Venue

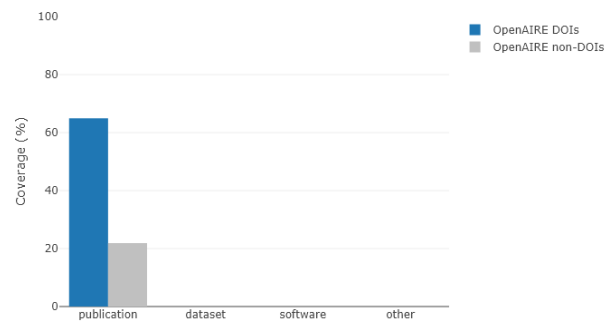


coverage comparison - all time

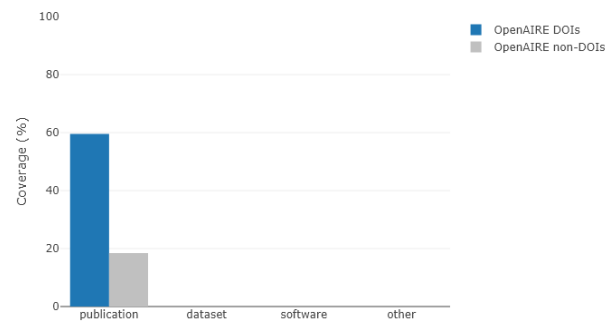


coverage comparison - 2021

Venue ISSN

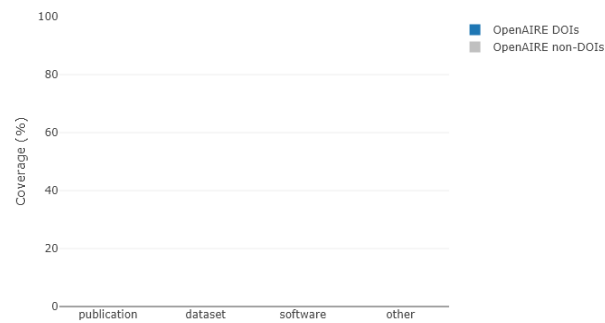


coverage comparison - all time

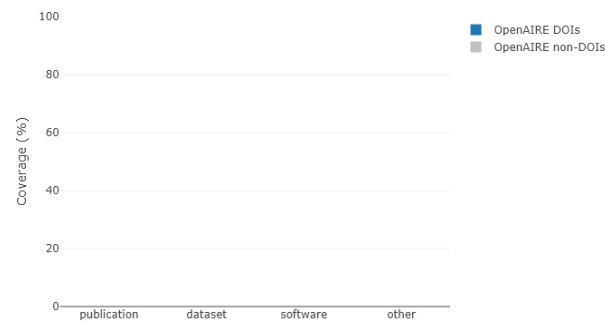


coverage comparison - 2021

Venue ISSN-L

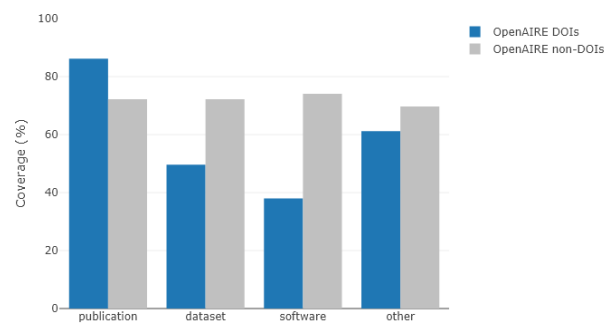


coverage comparison - all time

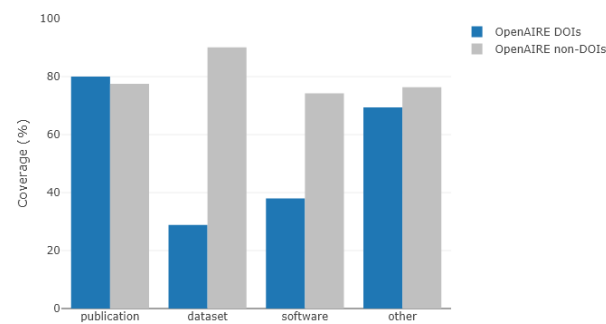


coverage comparison - 2021

Fields

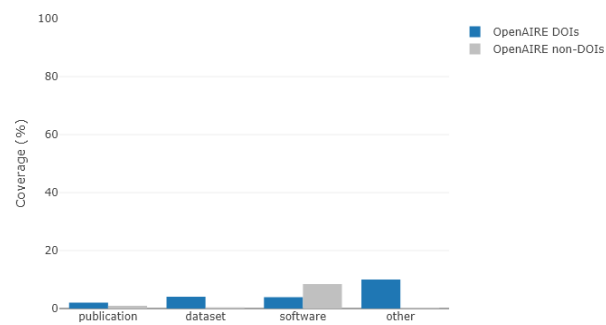


coverage comparison - all time

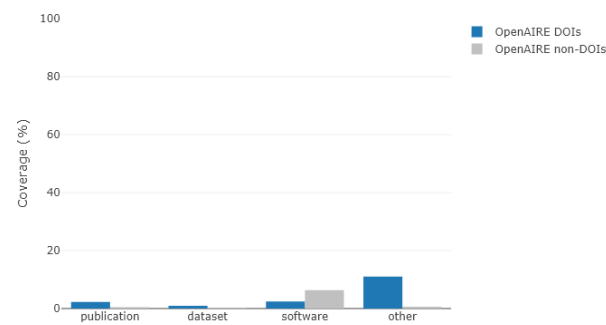


coverage comparison - 2021

Funders

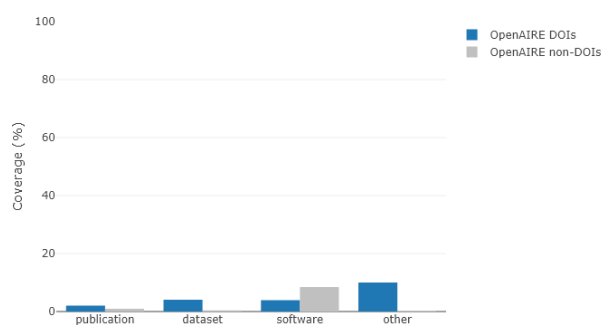


coverage comparison - all time

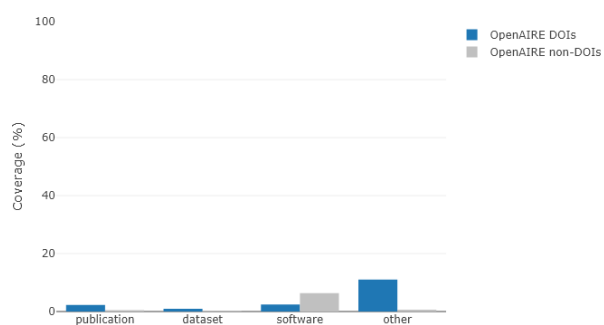


coverage comparison - 2021

## Funder Strings



coverage comparison - all time



coverage comparison - 2021