



# OPEN METADATA SOURCES

COMPARING OPENALEX TO  
CROSSREF

DATE: 25 AUGUST 2023

[PRELIMINARY VERSION]

# Executive Summary

In this project, we assess and compare the value added by OpenAlex to Crossref 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 Crossref, and of DOIs vs non-DOIs in openalex. 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\\_20230825\\_crossref\\_openalex\\_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 the value added by OpenAlex to Crossref 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:

- Crossref: academic-observatory.crossref\_metadata.crossref\_metadata20230731
- OpenAlex: academic-observatory.openalex.works\_snapshot20230709

Complete data and code are available on Github:

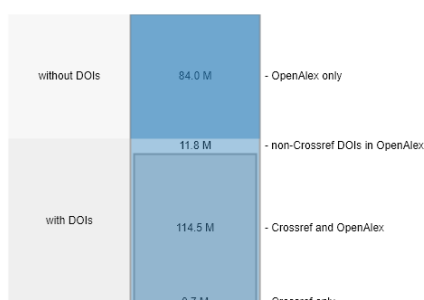
<https://github.com/Curtin-Open-Knowledge-Initiative/open-metadata-report>

All images and data belonging to this report are located in the directory [reports/run\\_20230825\\_crossref\\_openalex\\_1](#) in this repository.

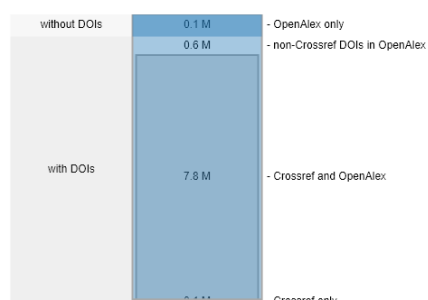
# Coverage of OpenAlex vs Crossref

## Comparing coverage

### Overview

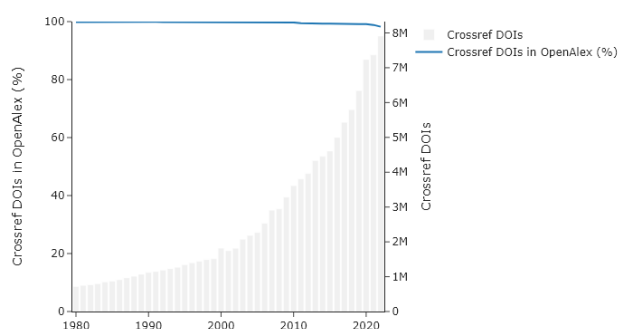


overall comparison - all time

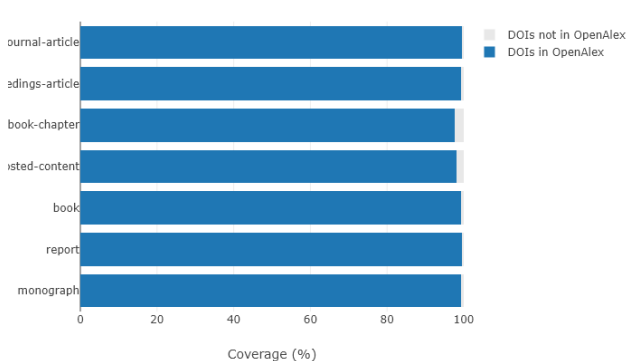


overall comparison - 2022

### By year and publication type



coverage by publication date - all time

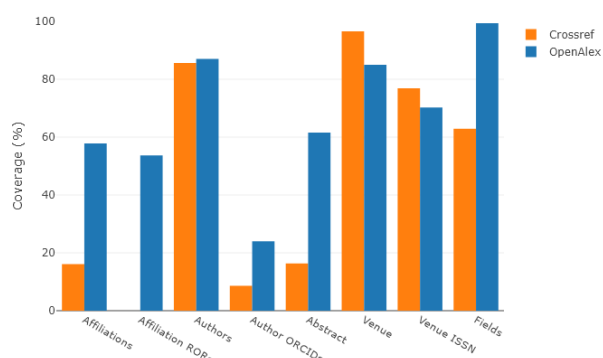


coverage by publication type - all time

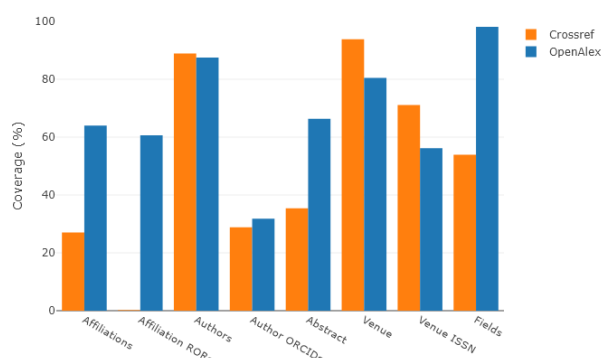
# Value Add of OpenAlex to Crossref

## Overview

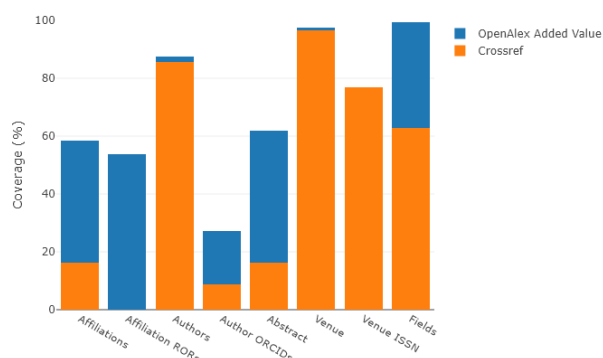
Comparing coverage of metadata types in Crossref and OpenAlex (for Crossref DOIs)



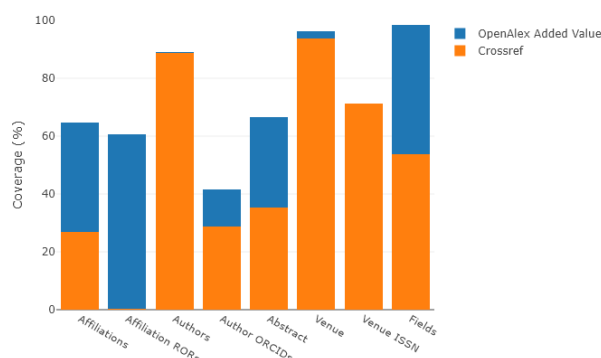
coverage comparison - all time



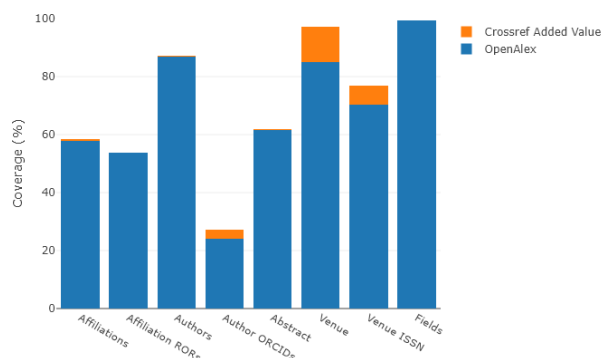
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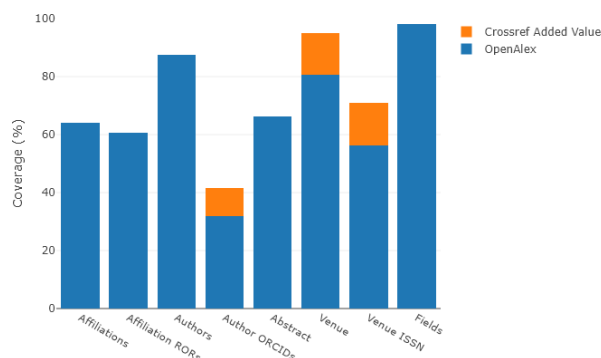
coverage added value - all time



coverage added value - 2022



coverage added value - all time

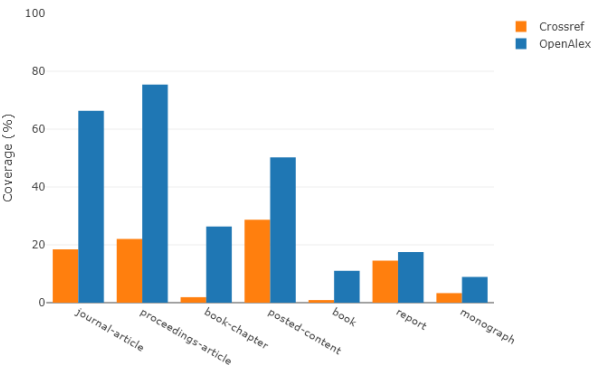


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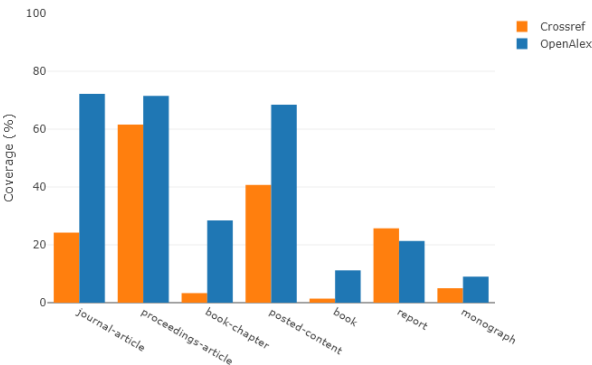
Details

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

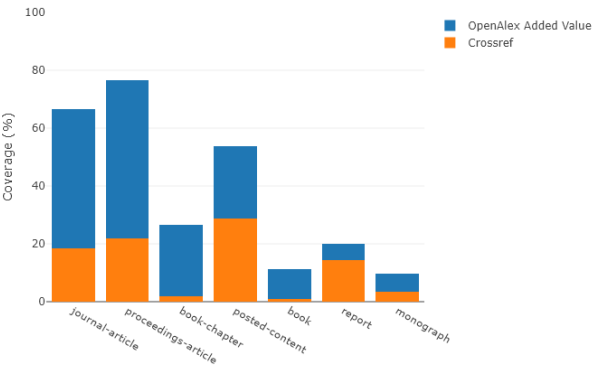
Affiliations



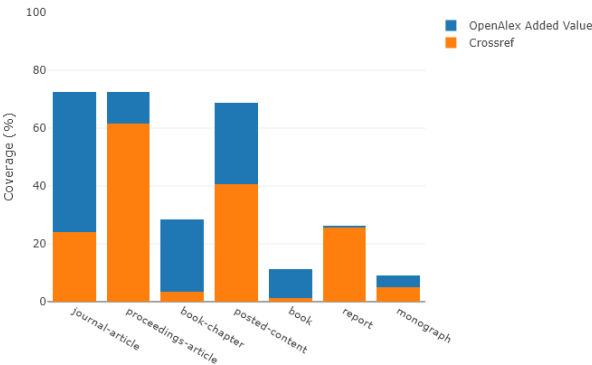
coverage comparison - all time



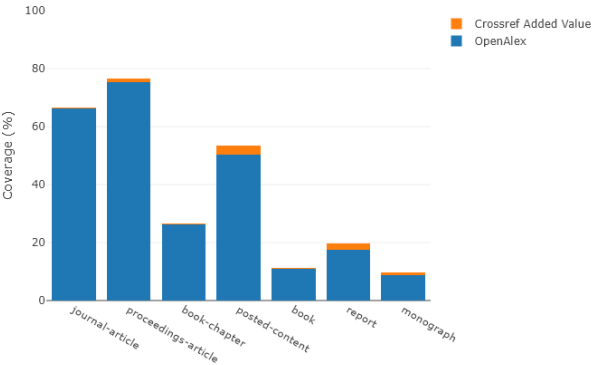
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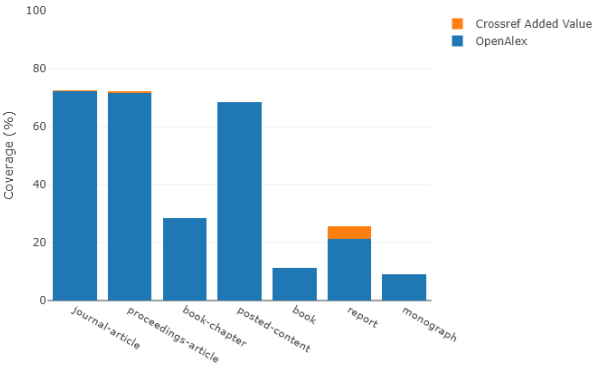
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coverage added value - 2022

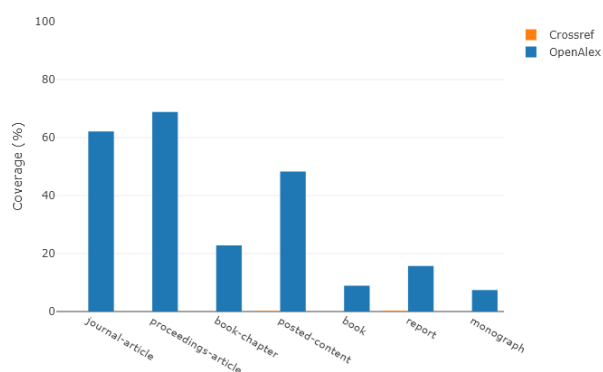


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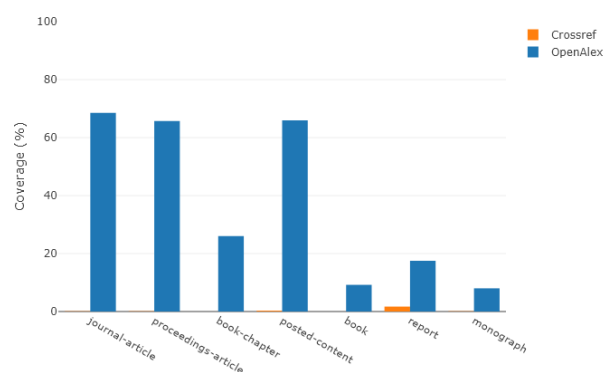


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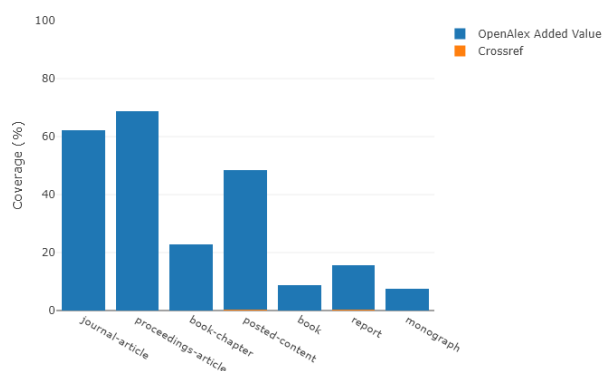
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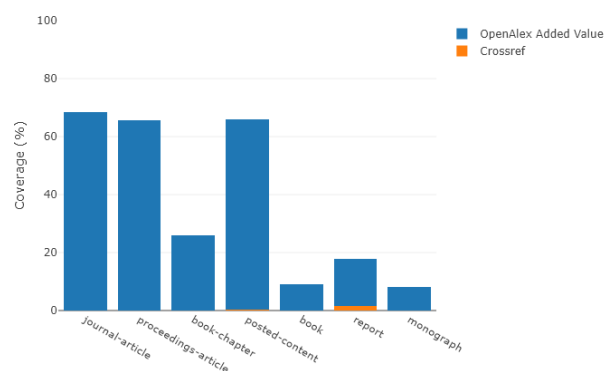
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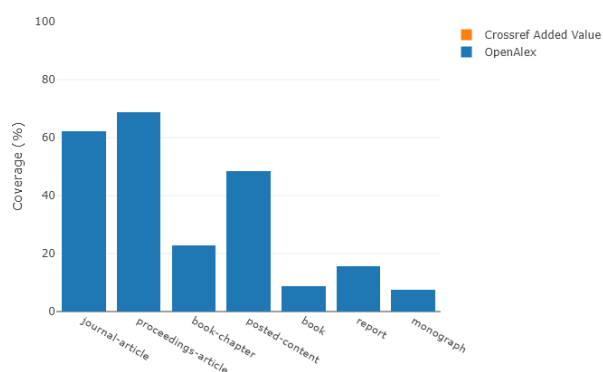
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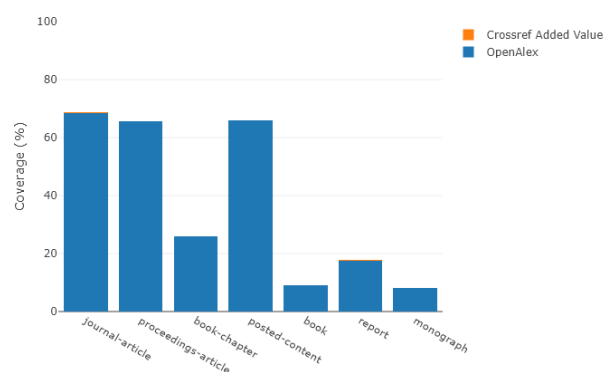
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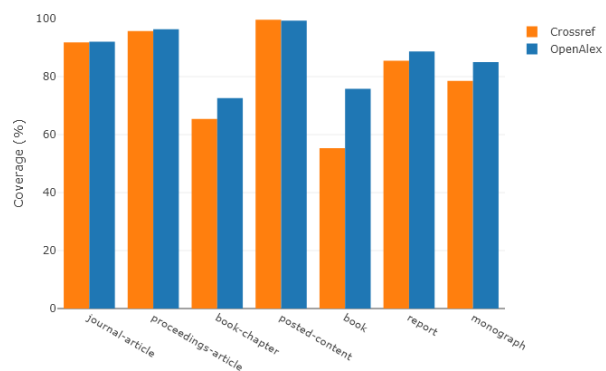
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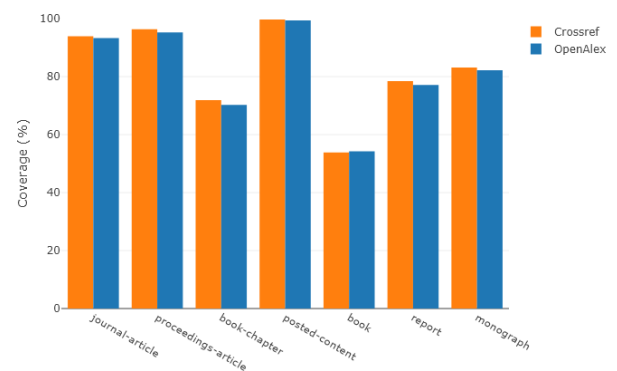
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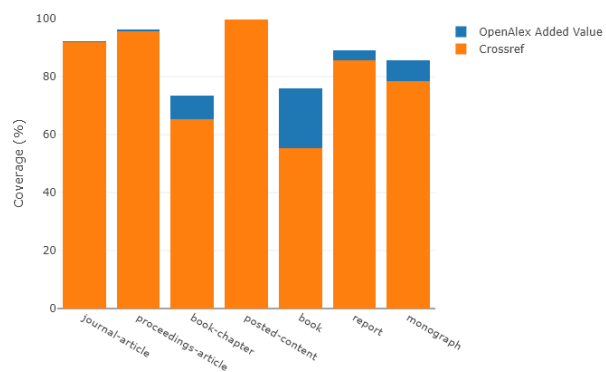
## Authors



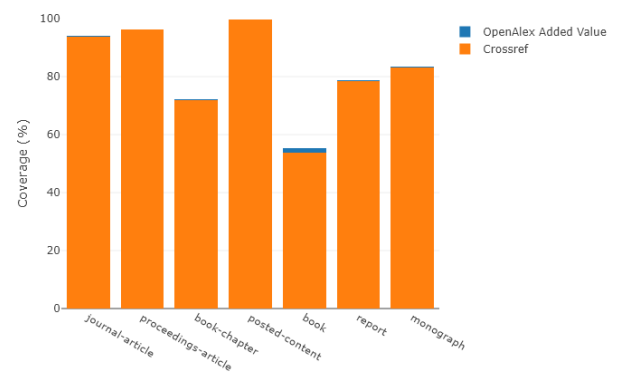
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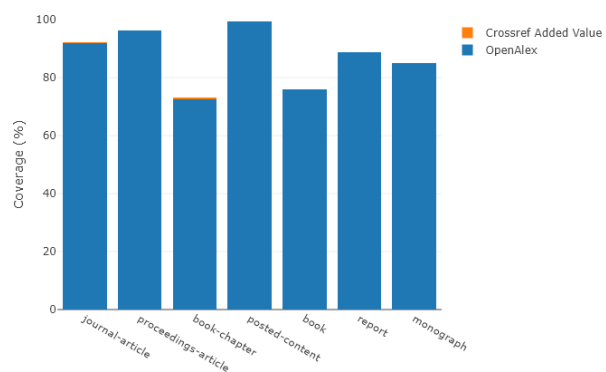
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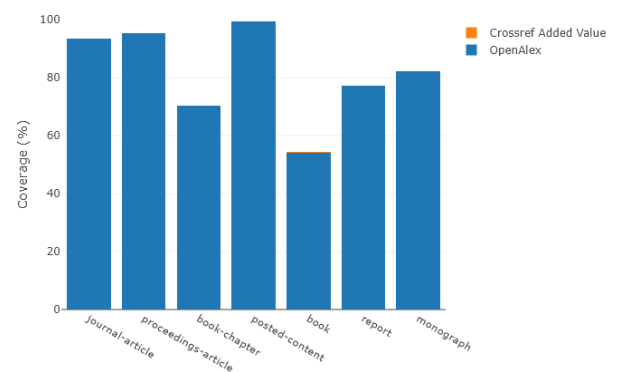
coverage added value - all time



coverage added value - 2022

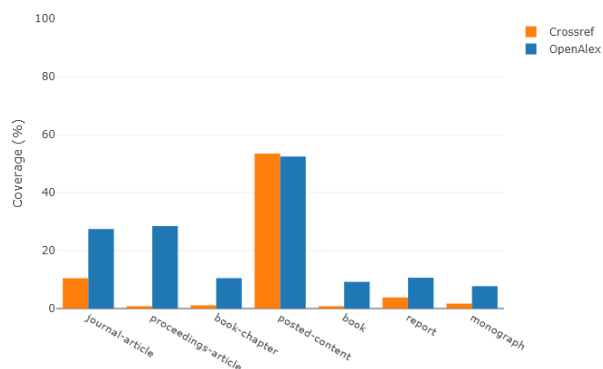


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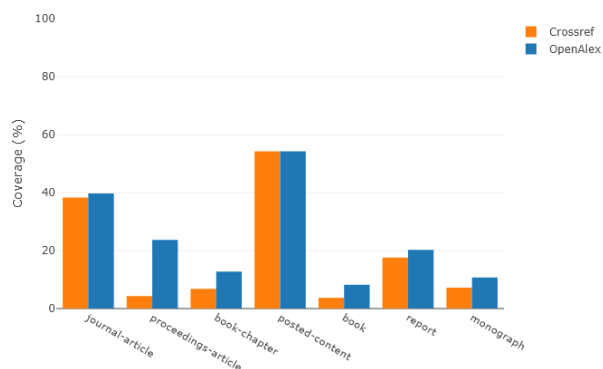


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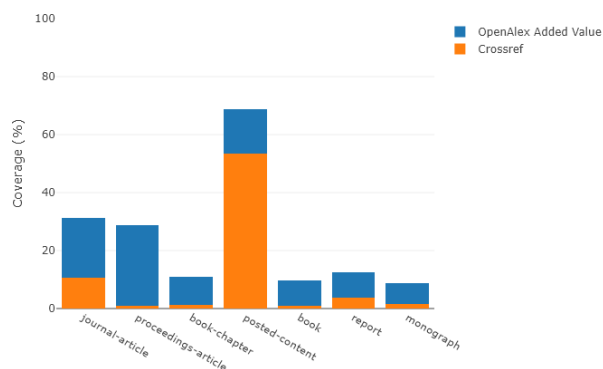
## Author ORCIDs



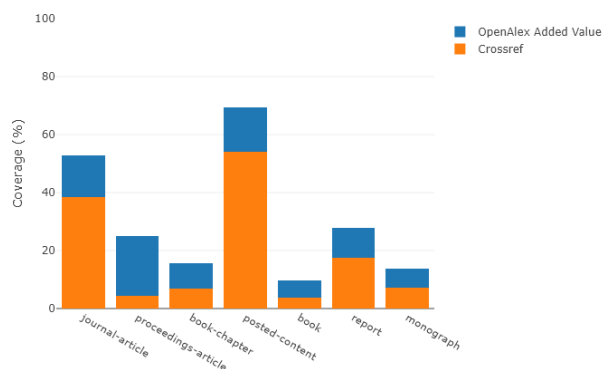
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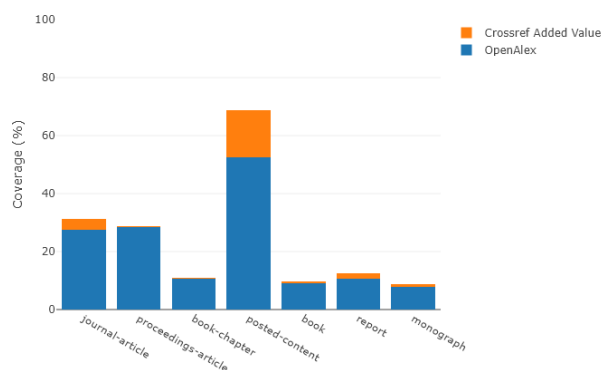
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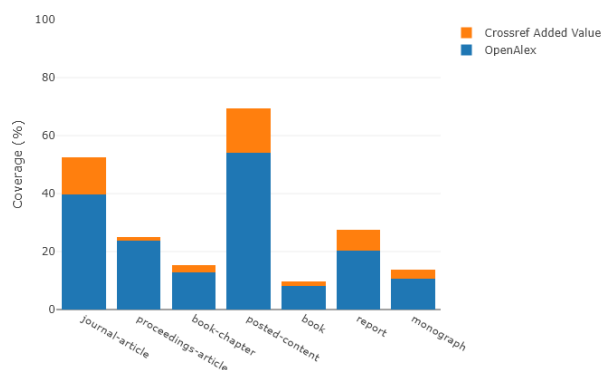
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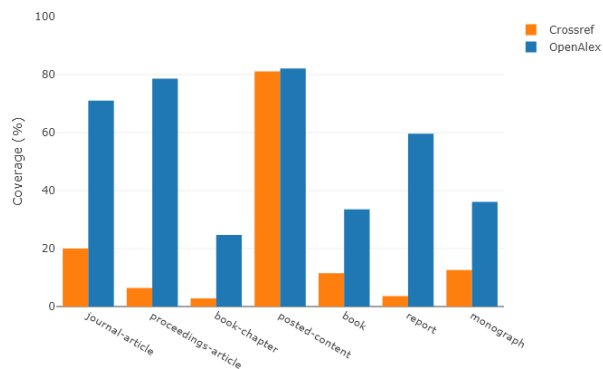


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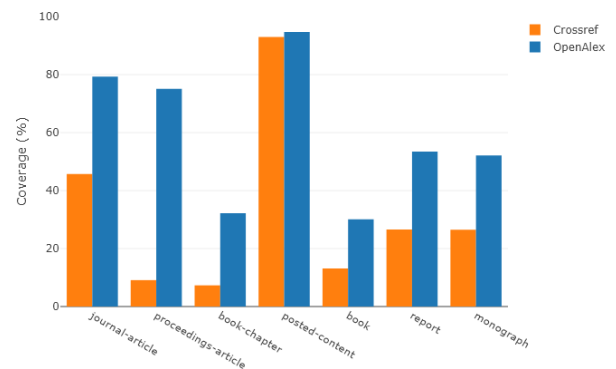


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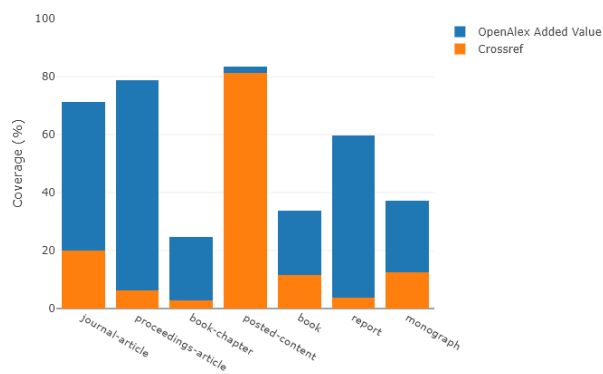
## Abstract



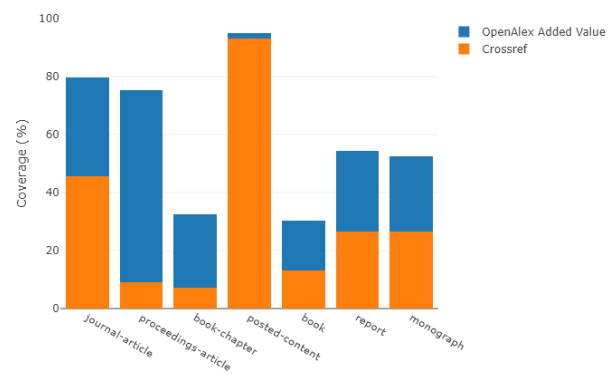
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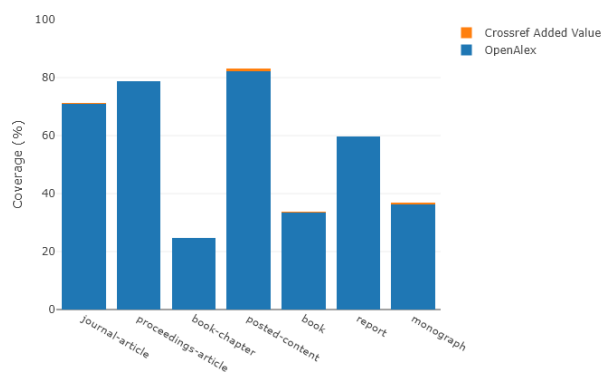
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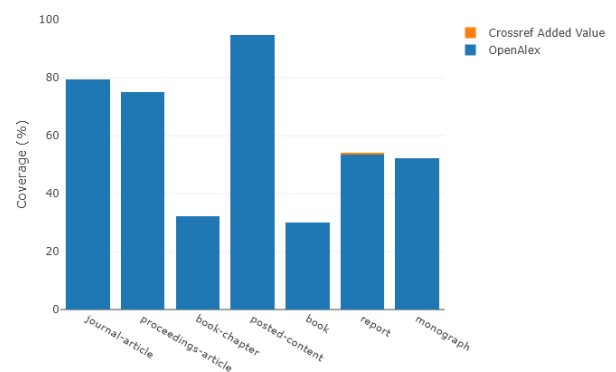
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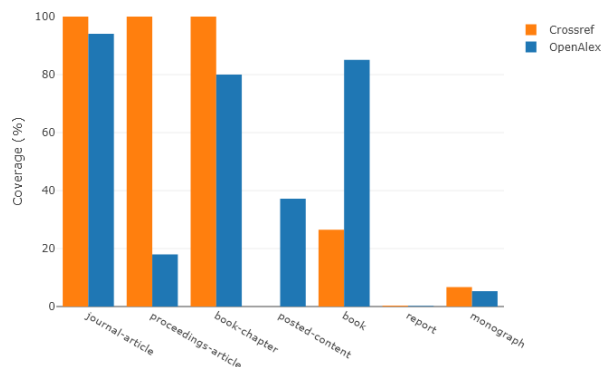


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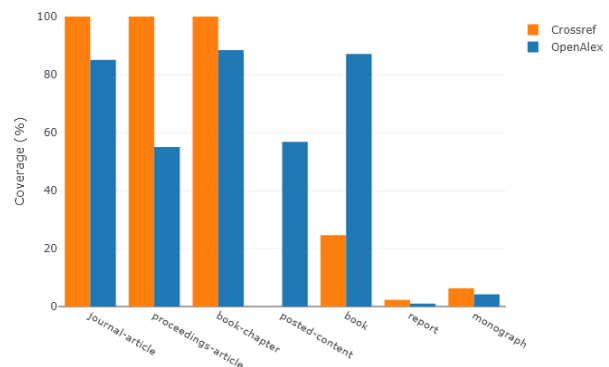


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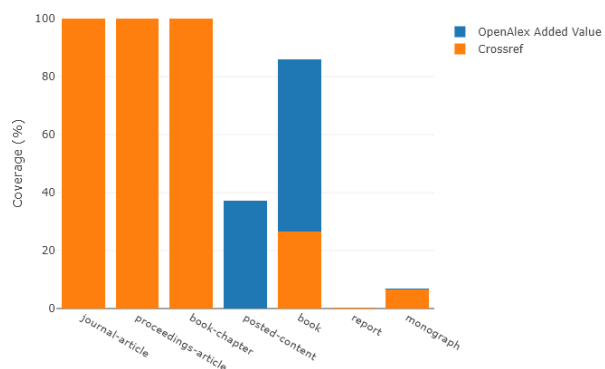
## Venue



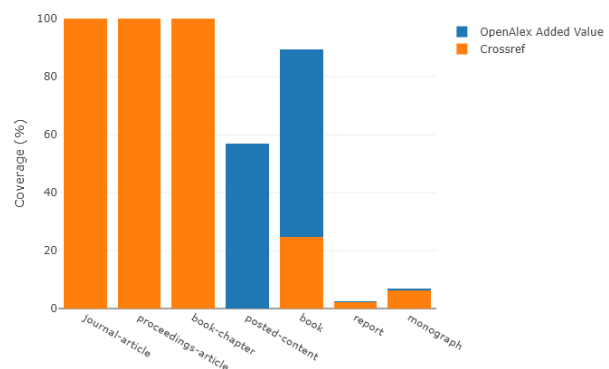
coverage comparison - all time



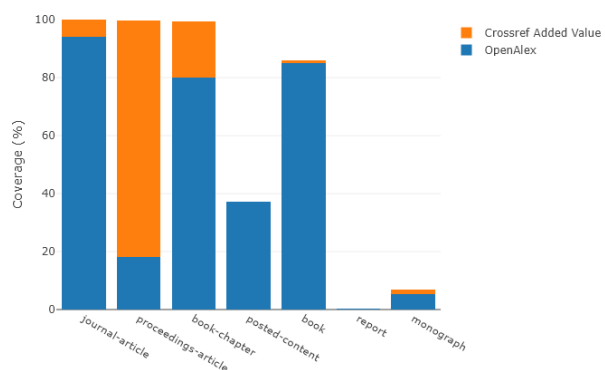
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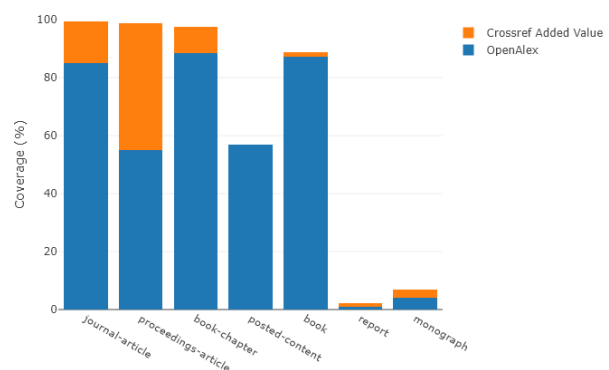
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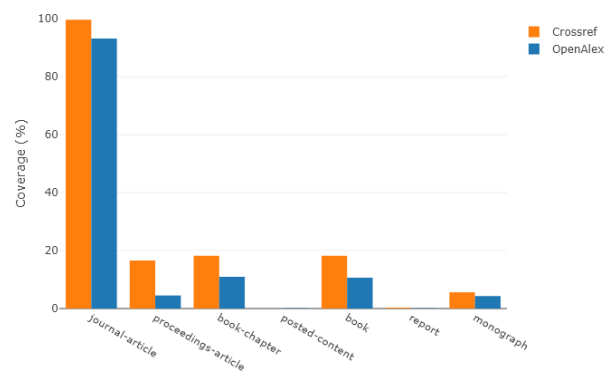


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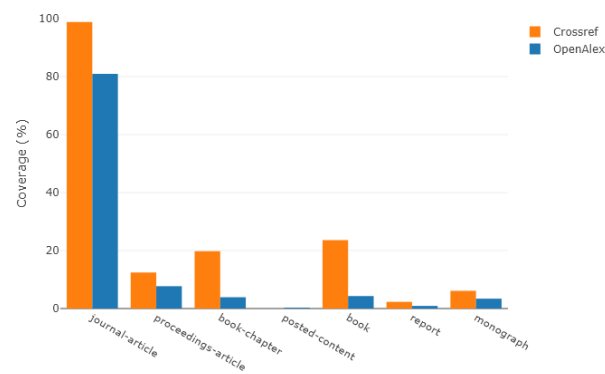


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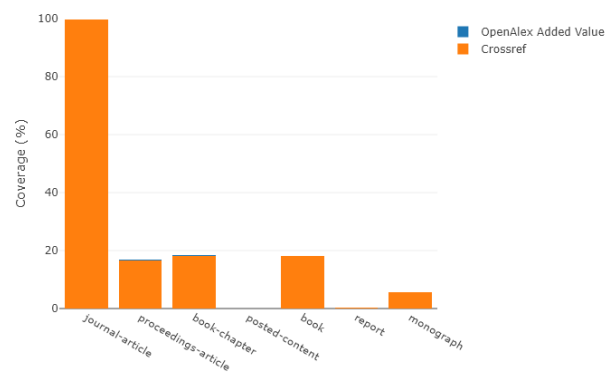
Venue ISSN



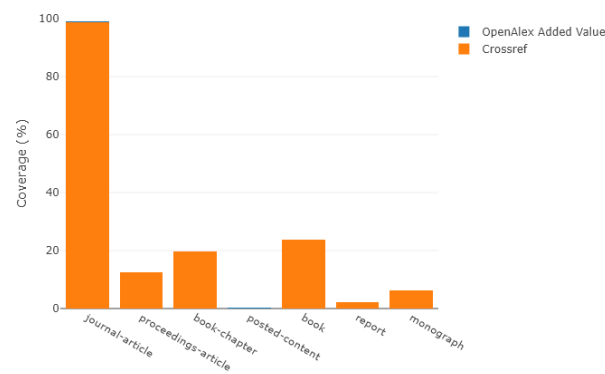
coverage comparison - all time



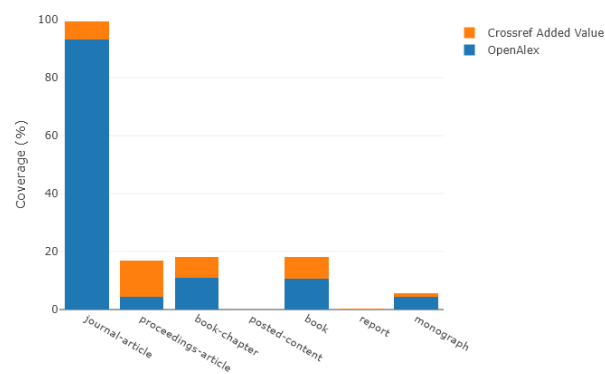
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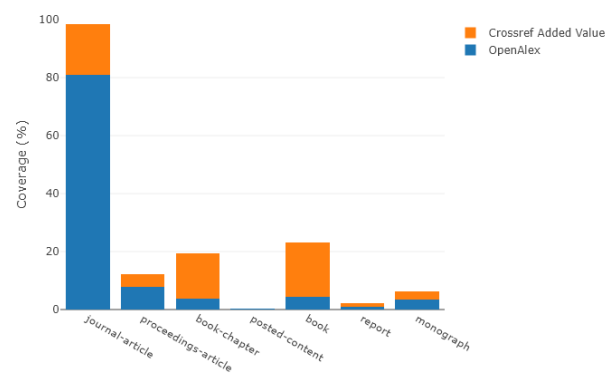
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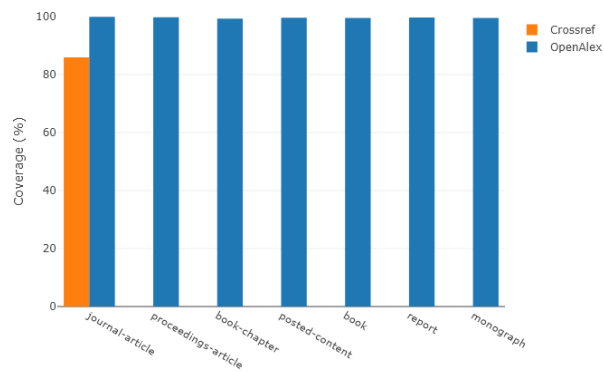


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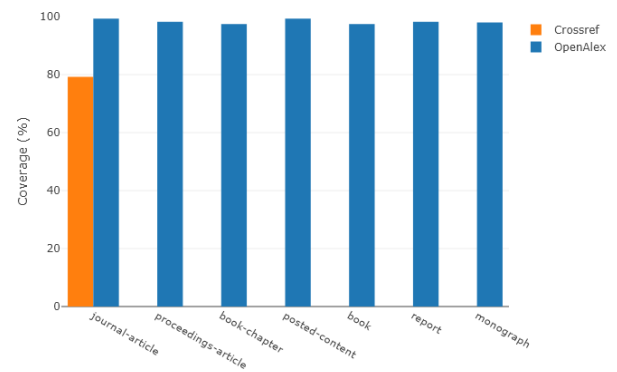


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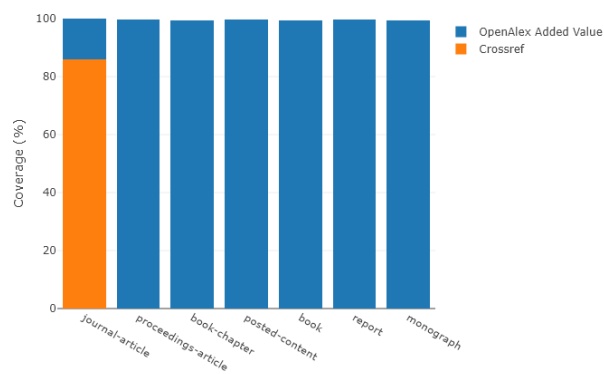
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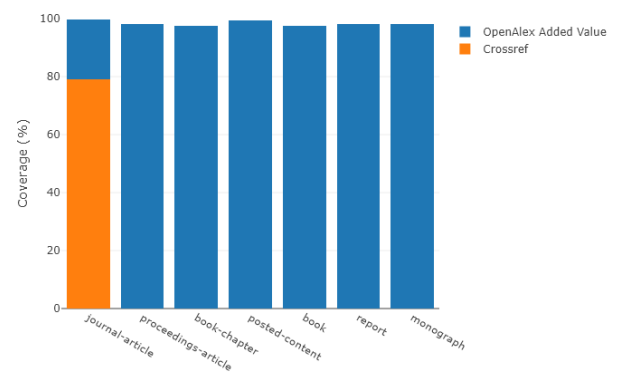
coverage comparison - all time



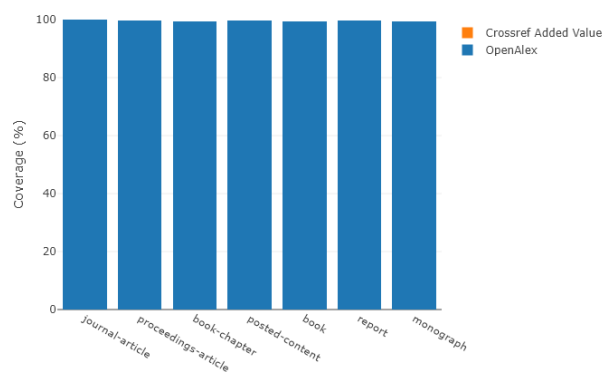
coverage comparison - 2022



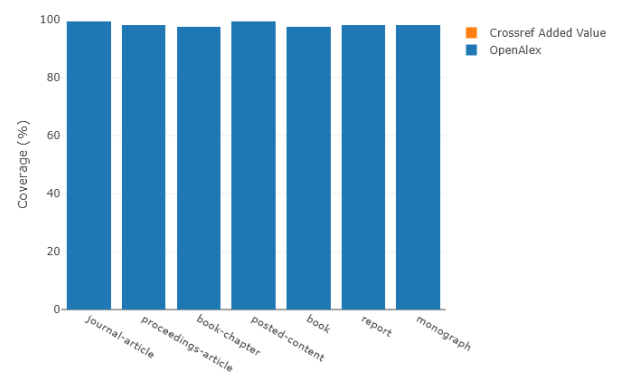
coverage added value - all time



coverage added value - 2022



coverage added value - all time

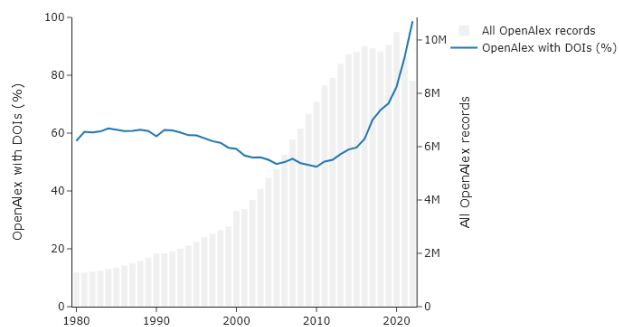


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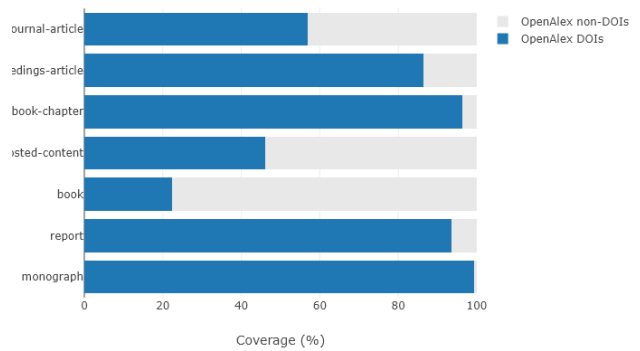
# OpenAlex Coverage Beyond DOIs

## DOIs vs non-DOIs

By year and publication type



coverage by publication date - all time

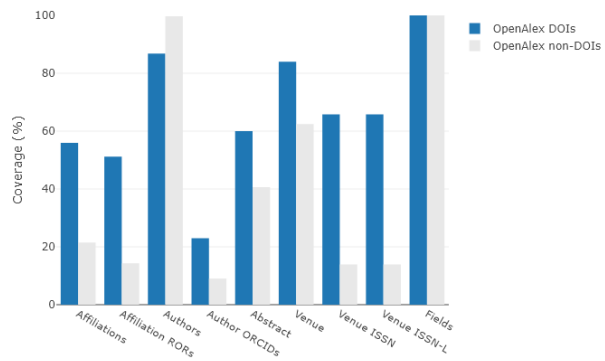


coverage by publication type - all time

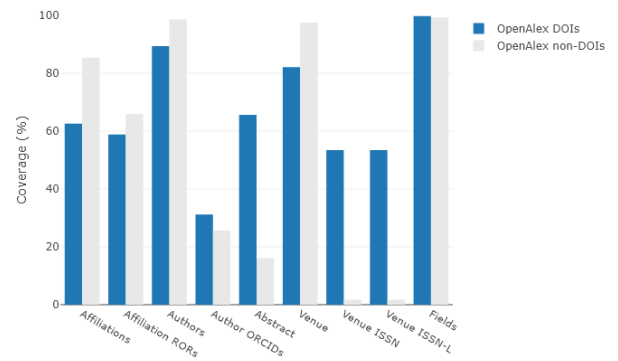
# Metadata Coverage

## Overview

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



coverage comparison - all time



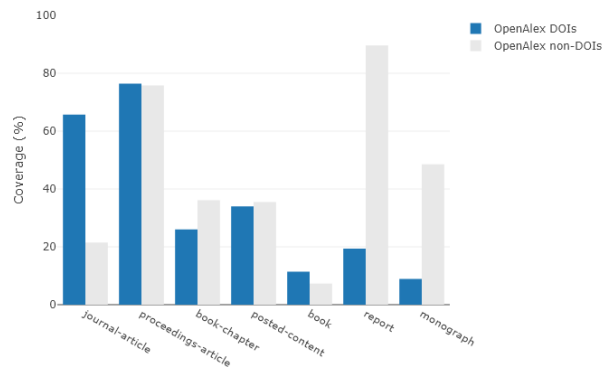
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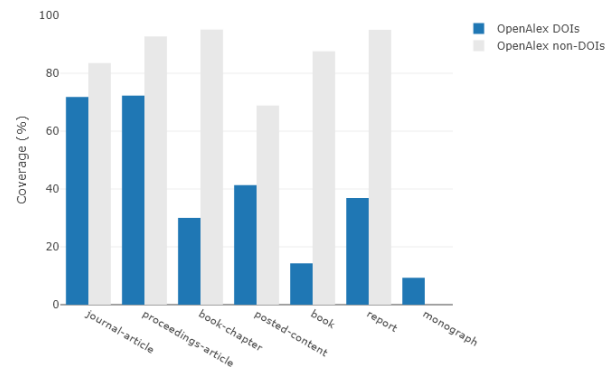
Details

Metadata coverage for DOIs and non-DOIs by publication type

Affiliations

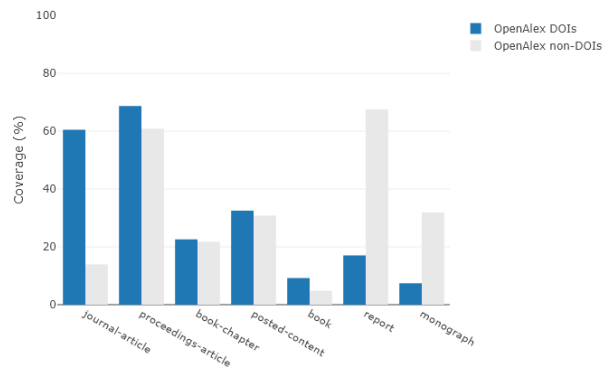


coverage comparison - all time

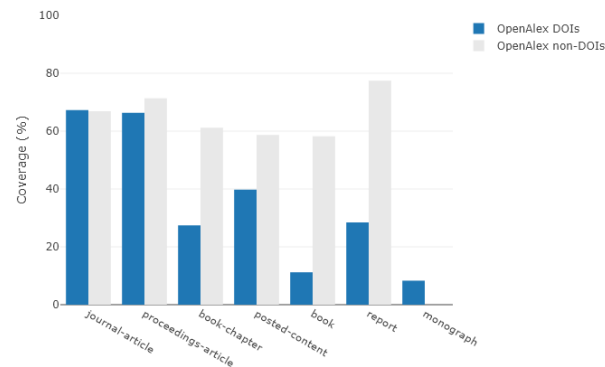


coverage comparison - 2022

Affiliation RORs

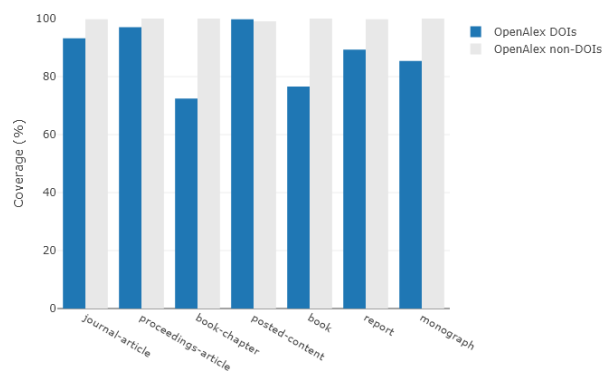


coverage comparison - all time

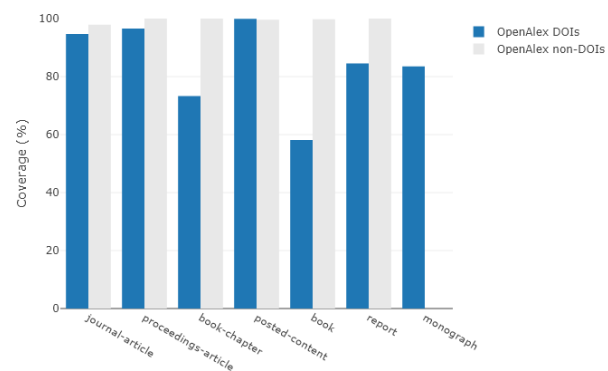


coverage comparison - 2022

## Authors

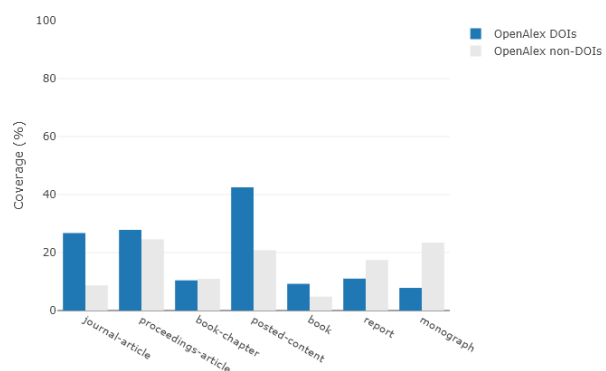


coverage comparison - all time

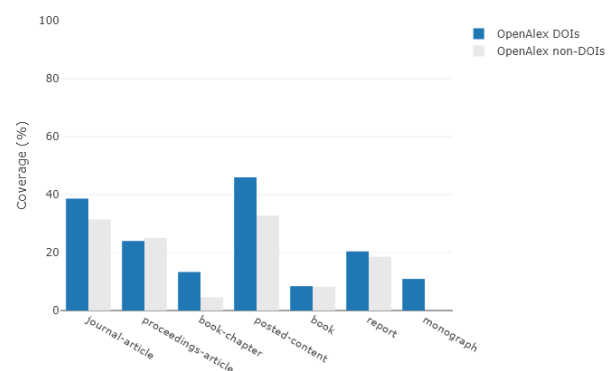


coverage comparison - 2022

## Author ORCIDs

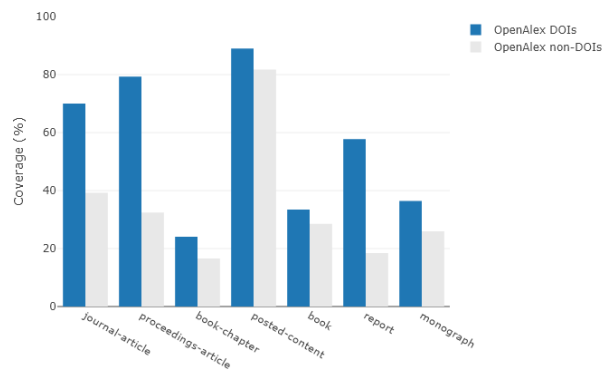


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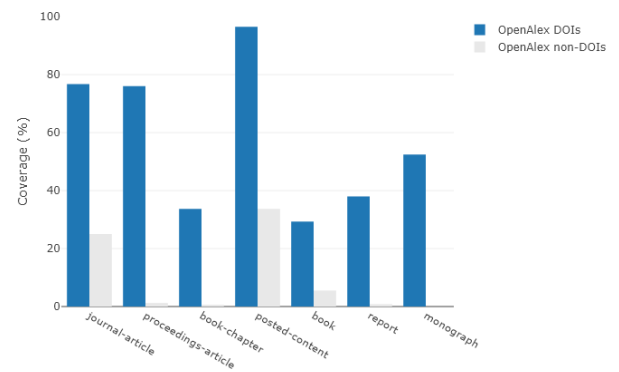


coverage comparison - 2022

## Abstract

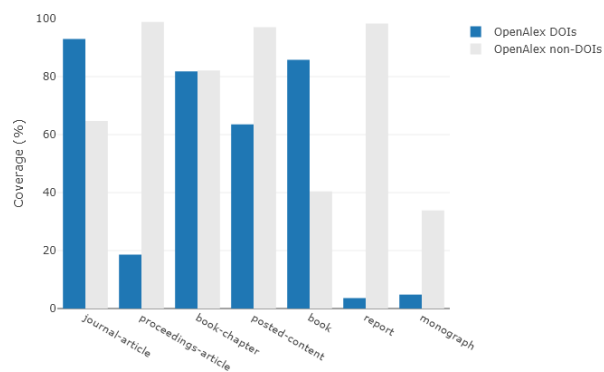


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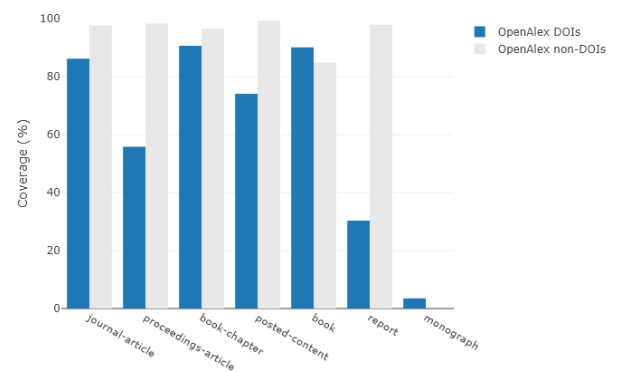


coverage comparison - 2022

## Venue

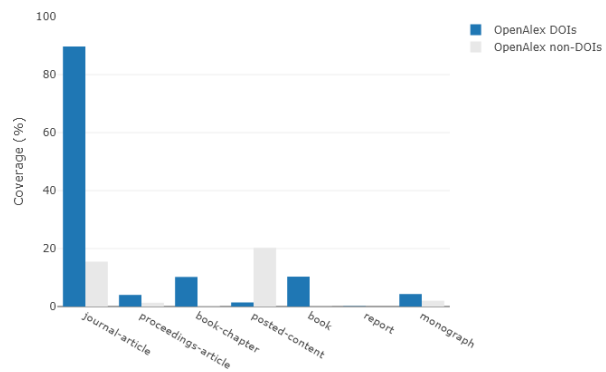


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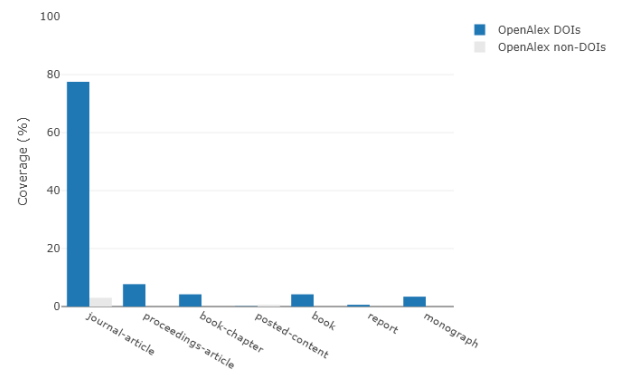


coverage comparison - 2022

## Venue ISSN

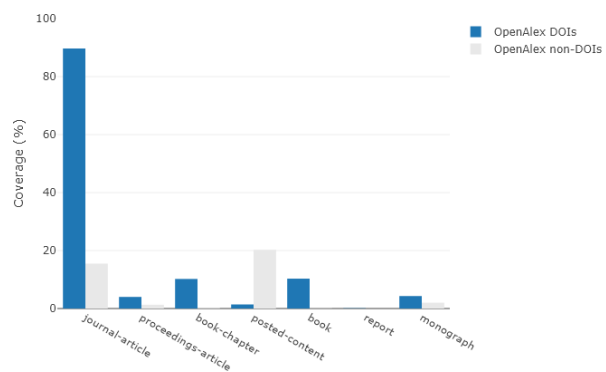


coverage comparison - all time

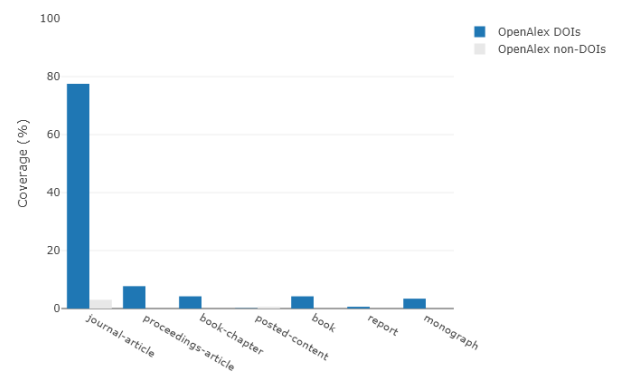


coverage comparison - 2022

## Venue ISSN-L

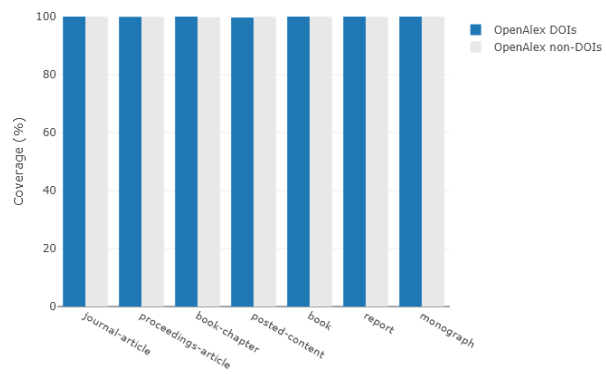


coverage comparison - all time

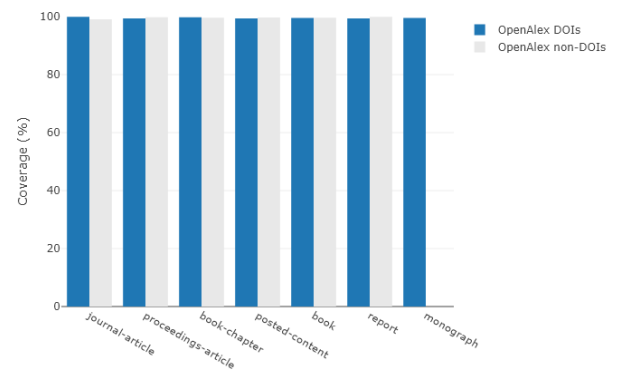


coverage comparison - 2022

## Fields



coverage comparison - all time



coverage comparison - 2022