Instruments @ datacite.org

Ted Habermann, Erin Robinson, Metadata Game Changers

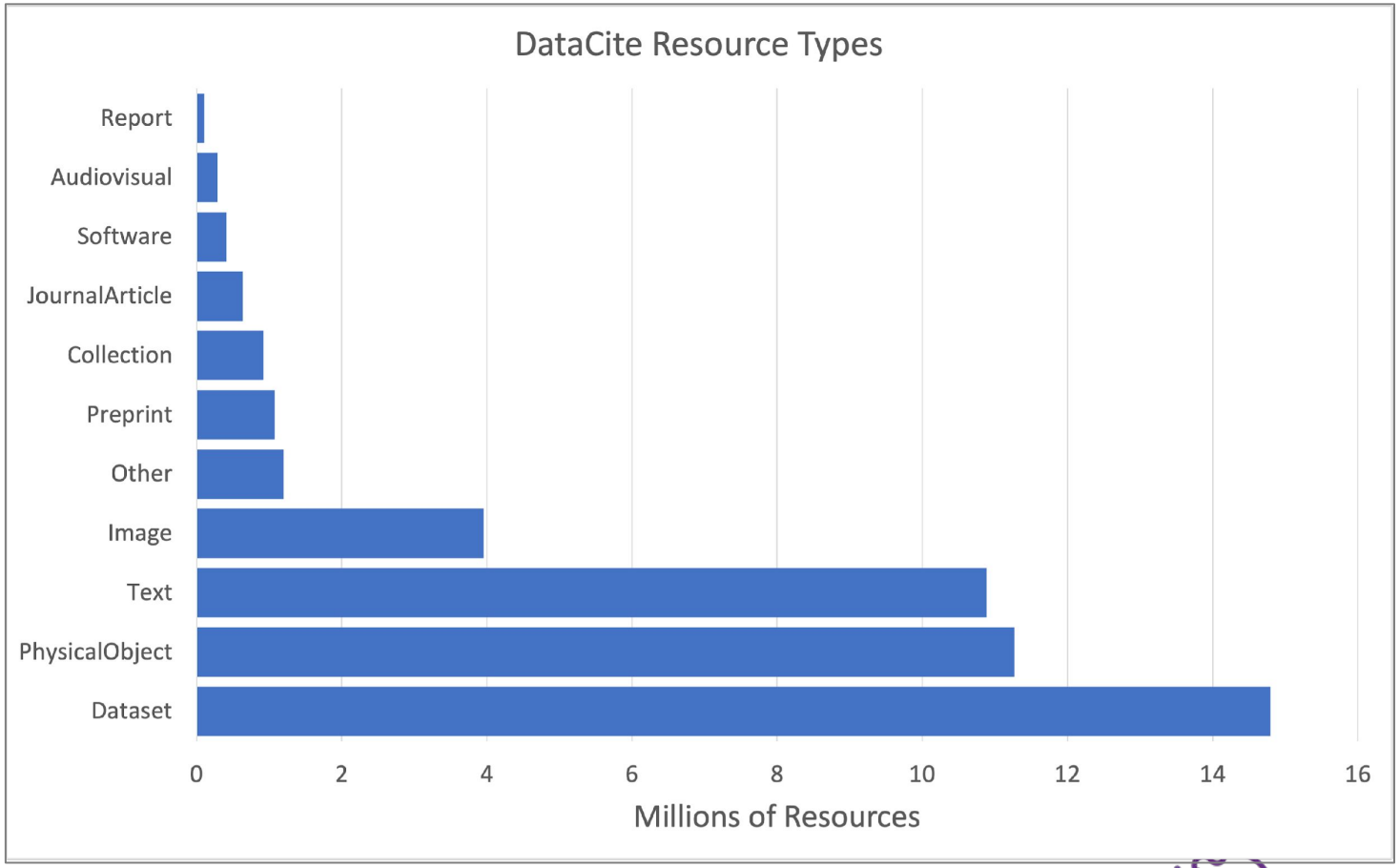
DataCite

A DOI provider and repository encompassing ~3000 members.

DataCite includes ~46,000,000 resources with 28 different types.

This plot shows resource types that occur over 100,000 times.

https://datacite.org/



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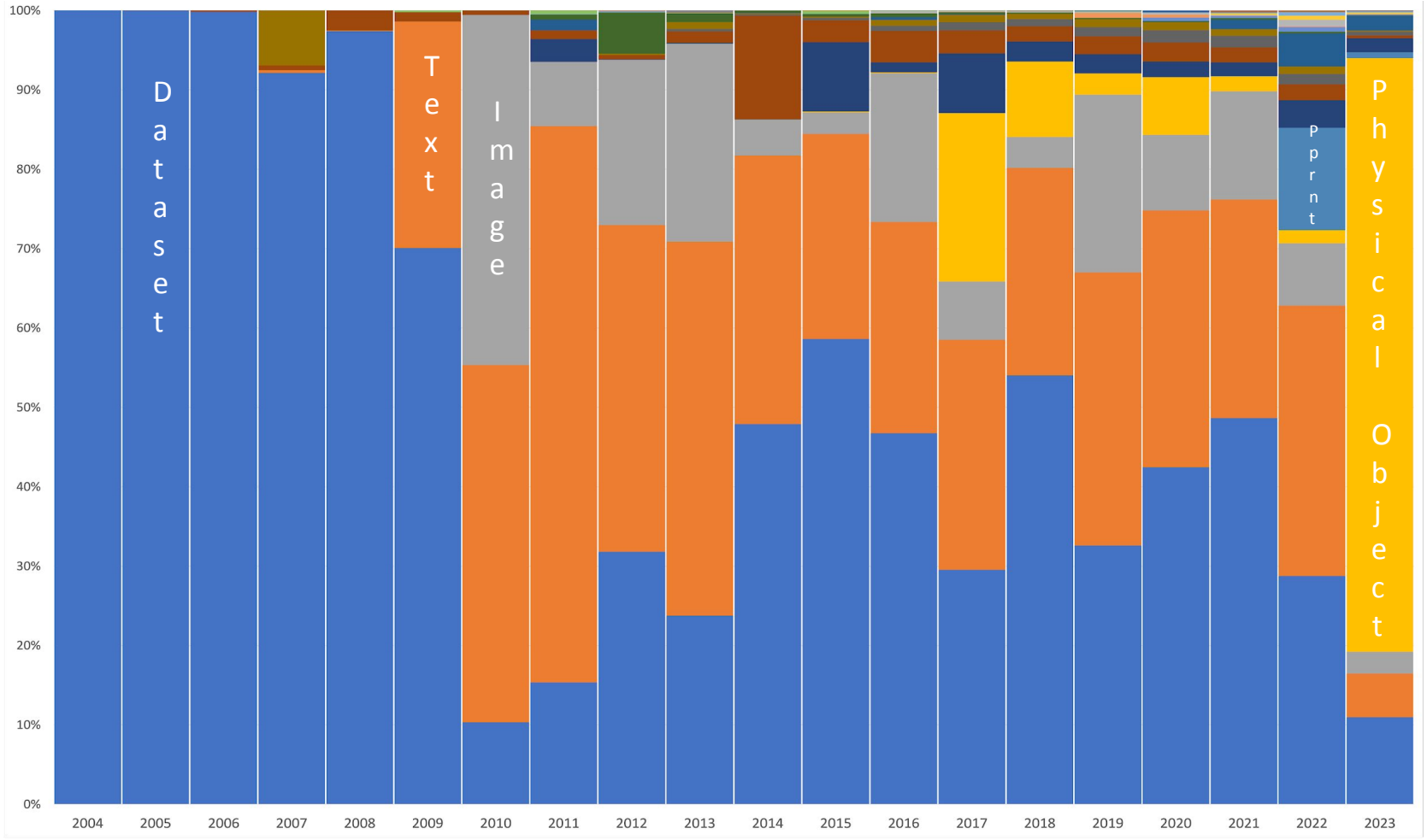
resourceTypeGeneral@ datacite



resourceTypeGeneral is required DataCite metadata element from a shared vocabulary.

The diversity and distribution of DataCite resource types has evolved significantly over the last 20 years.

The introduction of over **10,000,000 samples** during 2023 is the most recent change.

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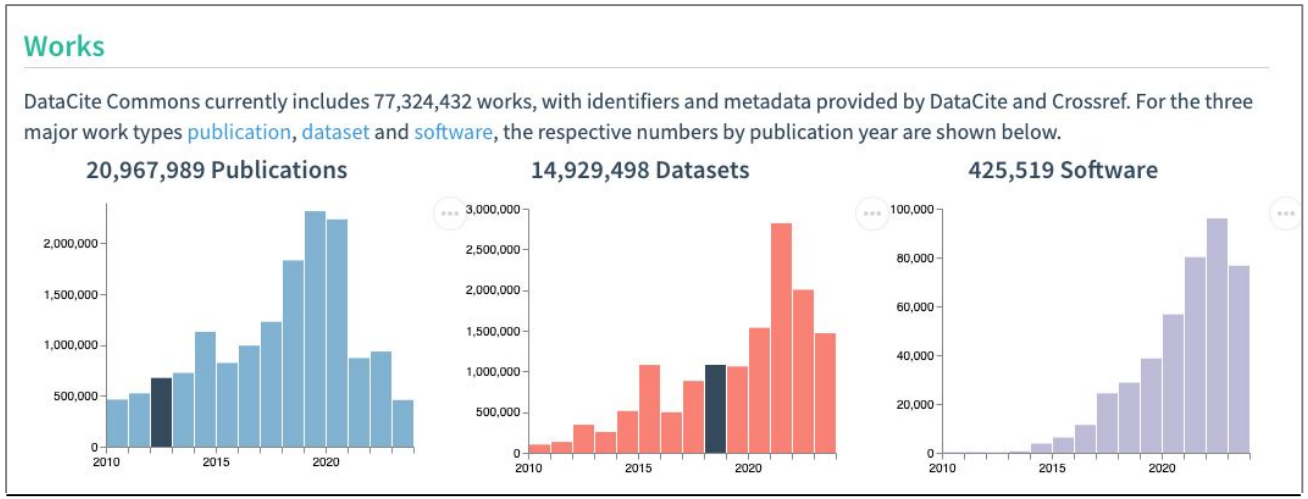
commons.datacite.org

The DataCite Commons is the emerging interface to metadata in DataCite and other elements of the global research PIDGraph (Crossref, ORCID, ROR, Event Data)



https://commons.datacite.org/statistics

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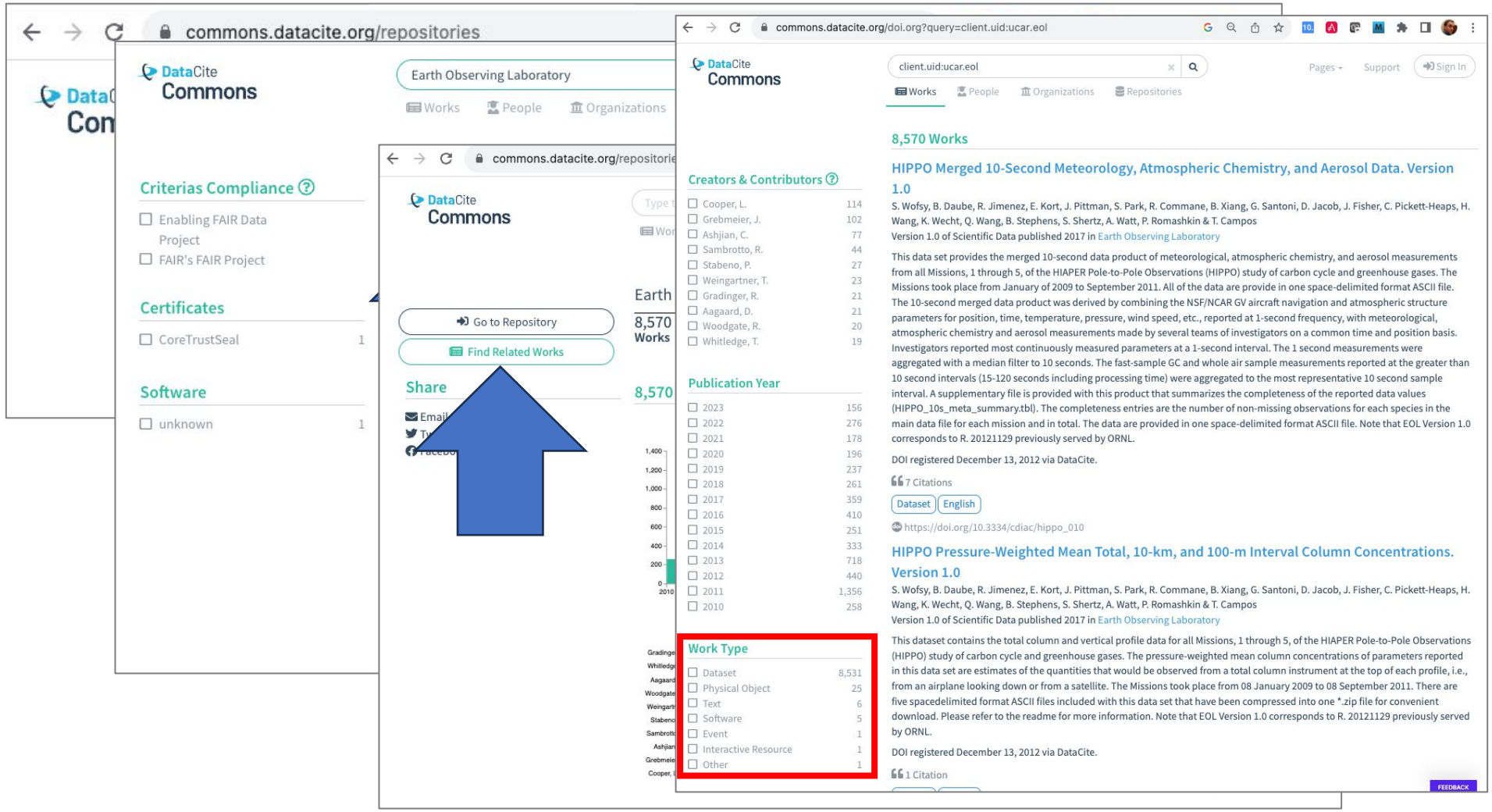
ucar.eol@commons.datacite.org



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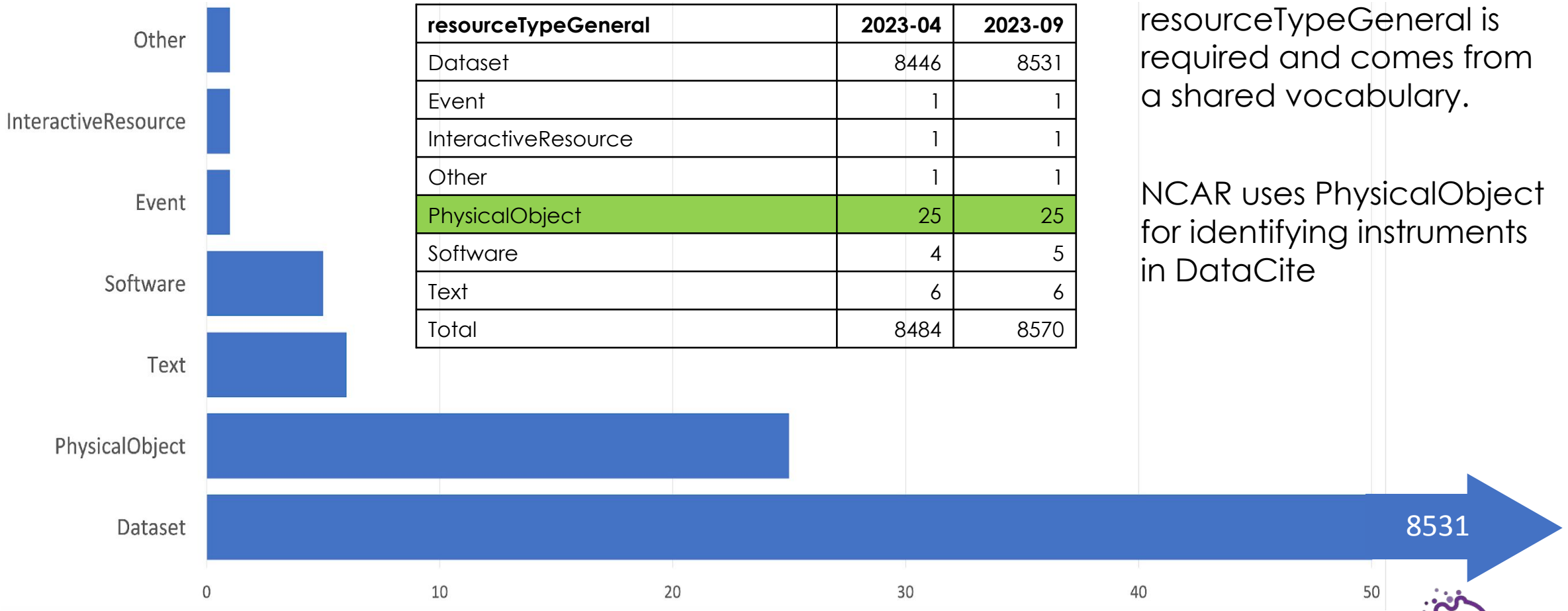
ucar.eol.resourceTypeGeneral



resourceTypeGeneral	2023-04	2023-09
Dataset	8446	8531
Event	1	1
InteractiveResource	1	1
Other	1	1
PhysicalObject	25	25
Software	4	5
Text	6	6
Total	8484	8570

resourceTypeGeneral is required and comes from a shared vocabulary.

NCAR uses PhysicalObject for identifying instruments in DataCite

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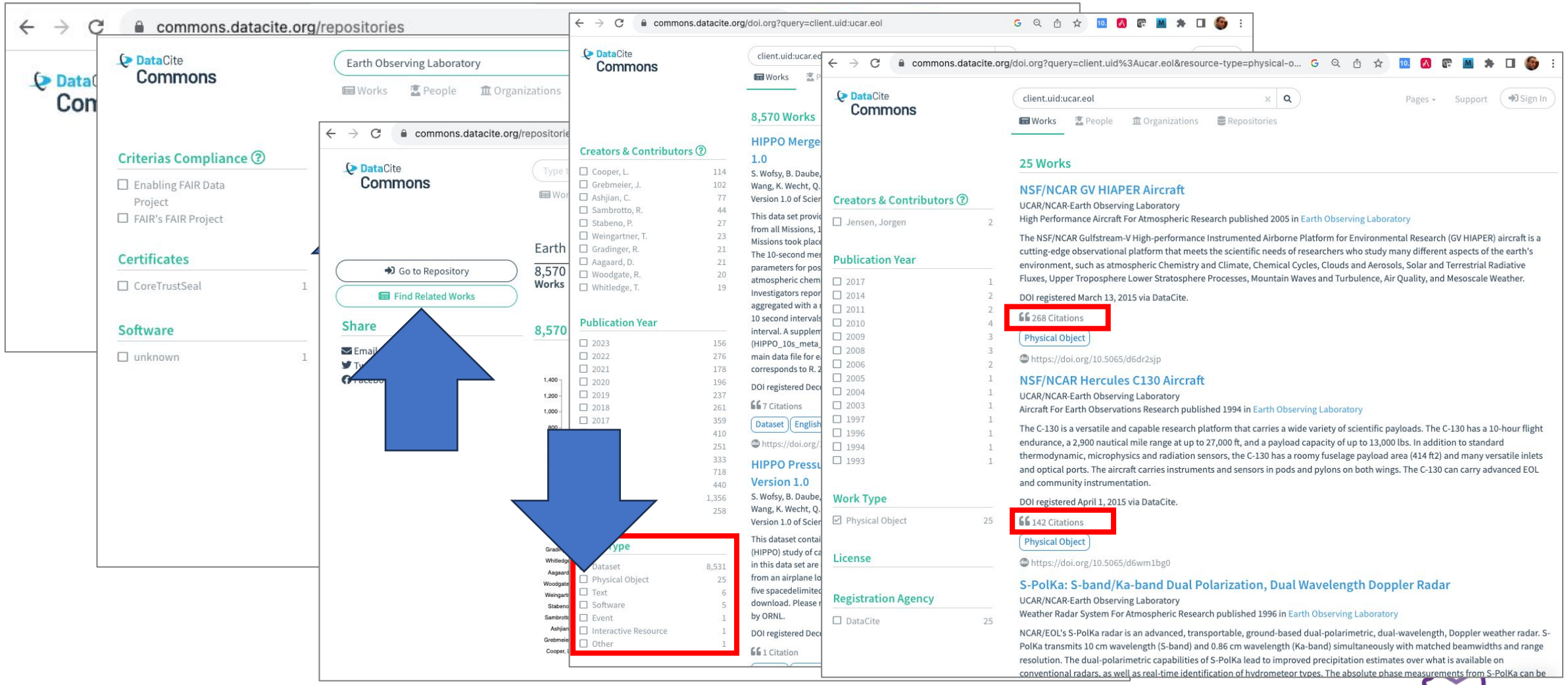

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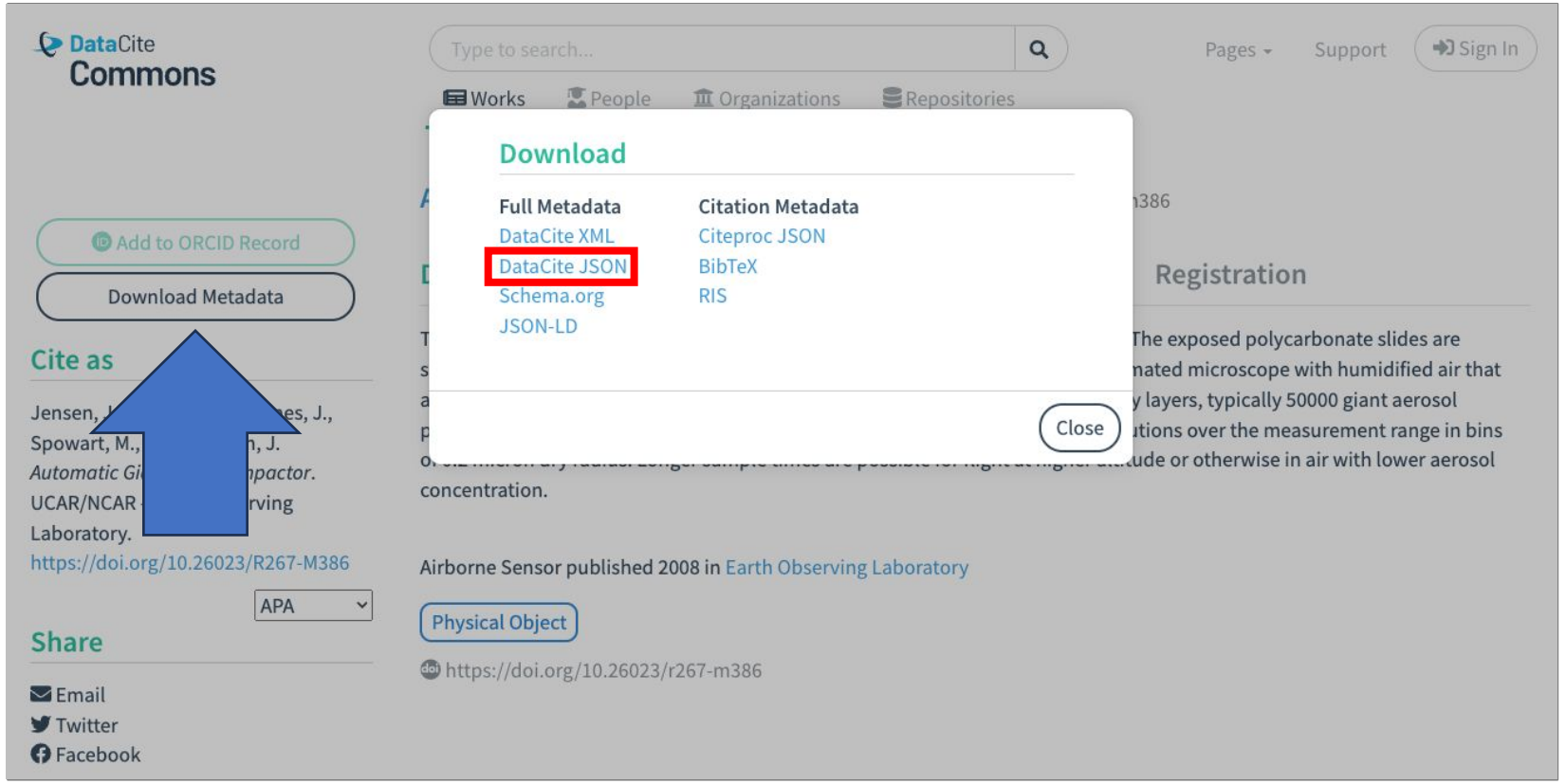
Automatic Giant Nuclei Impactor



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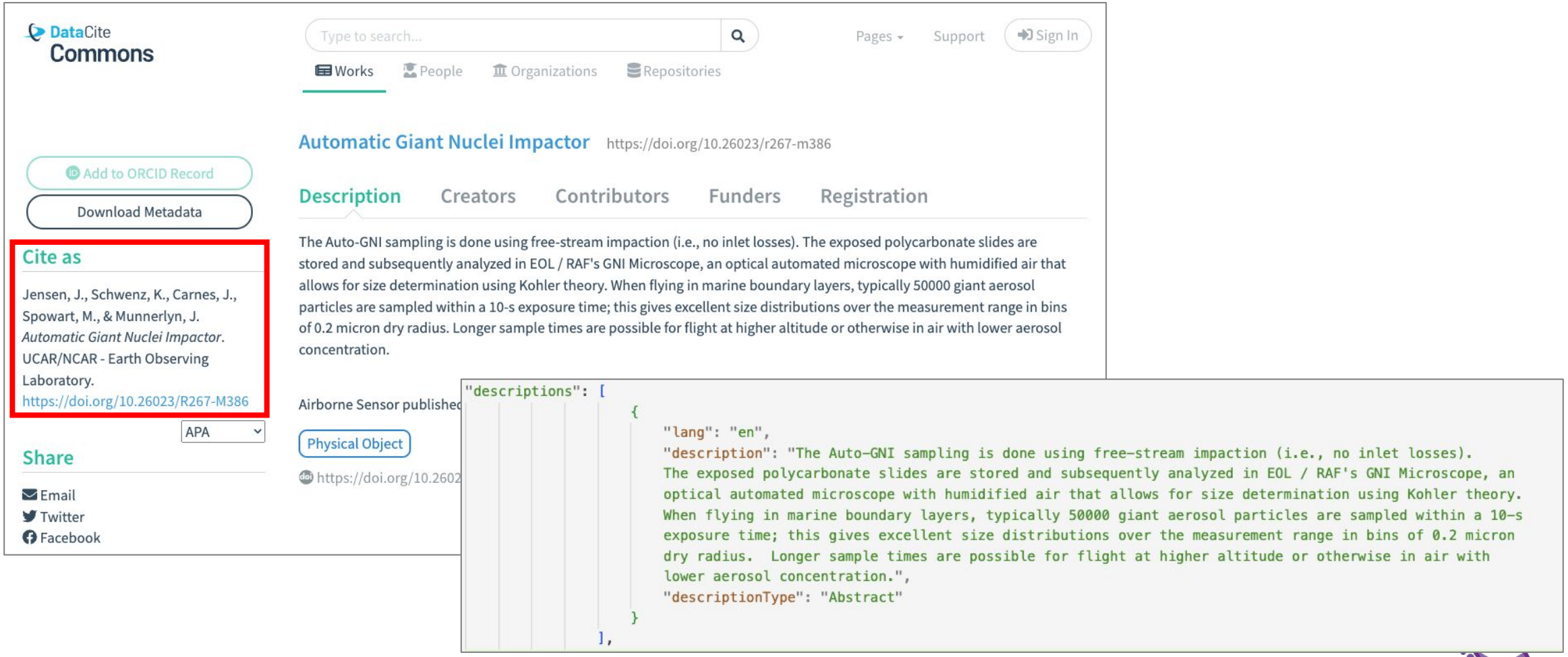

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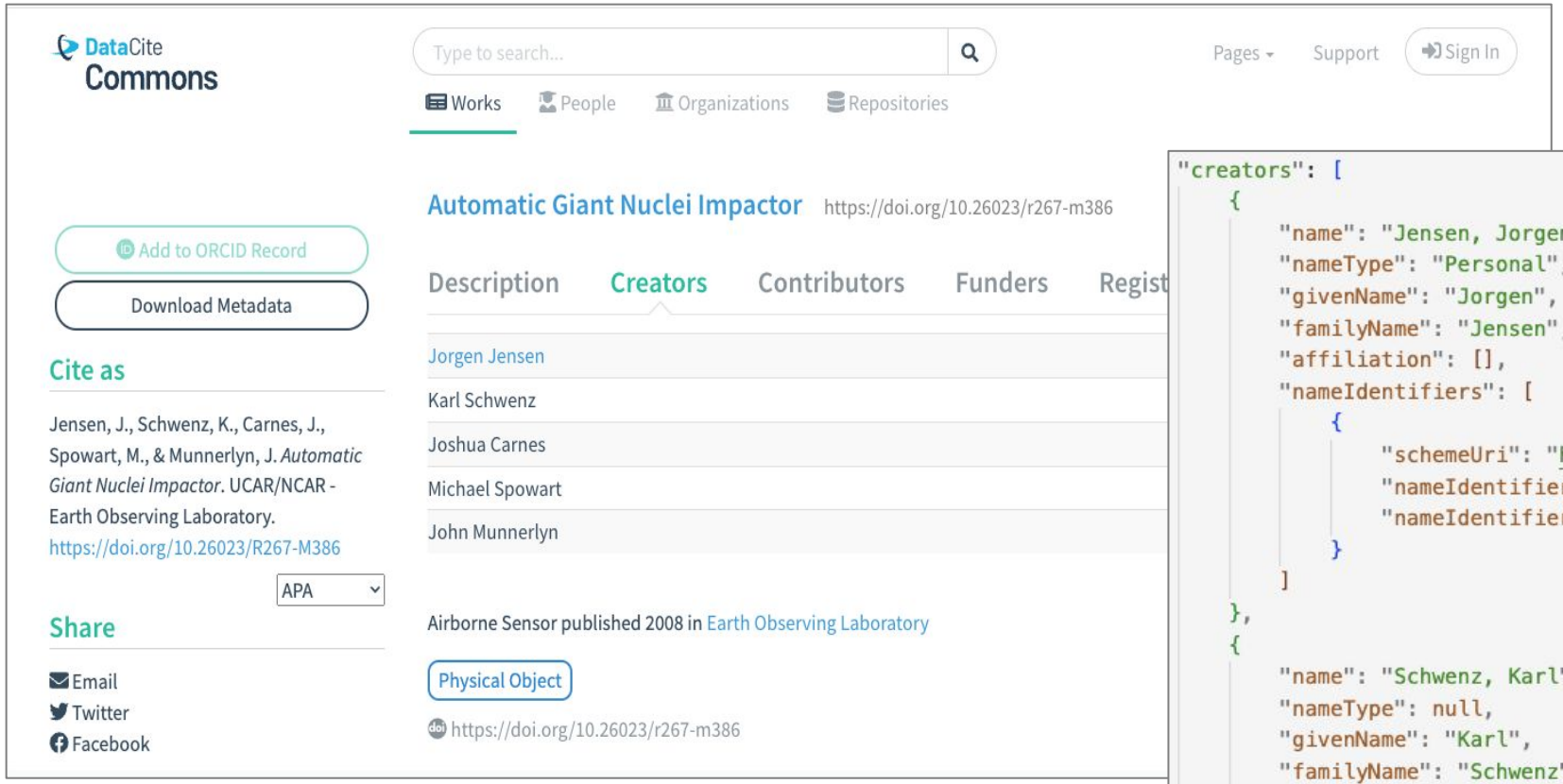

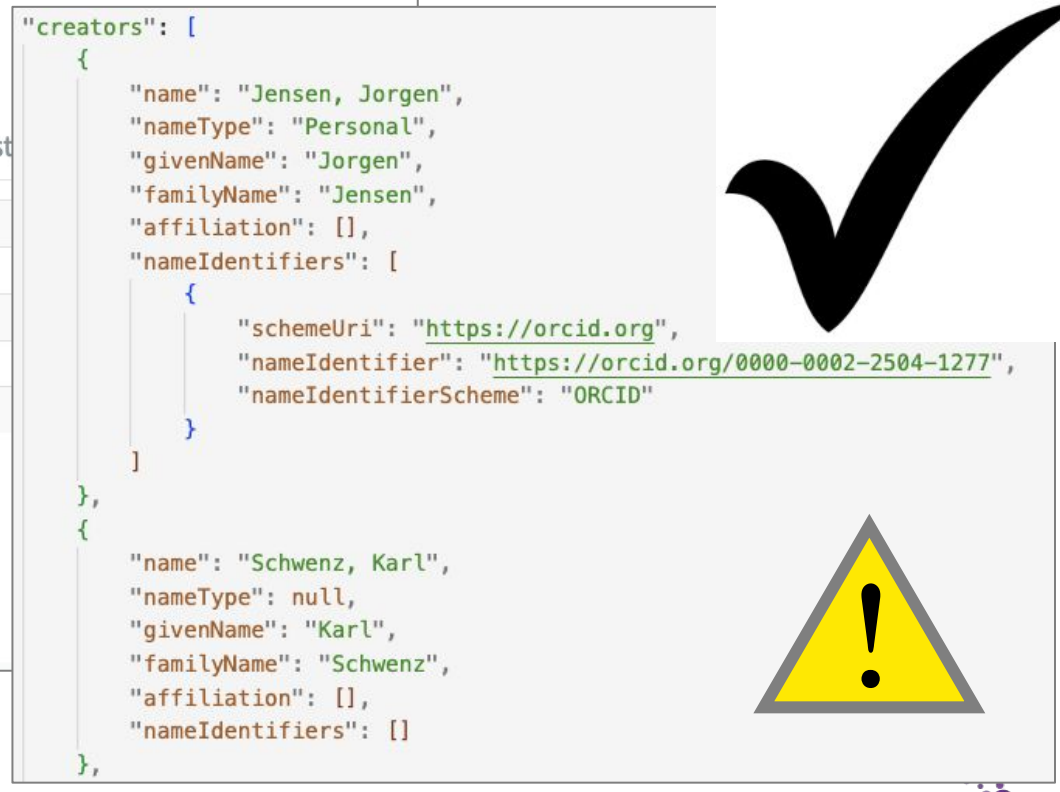

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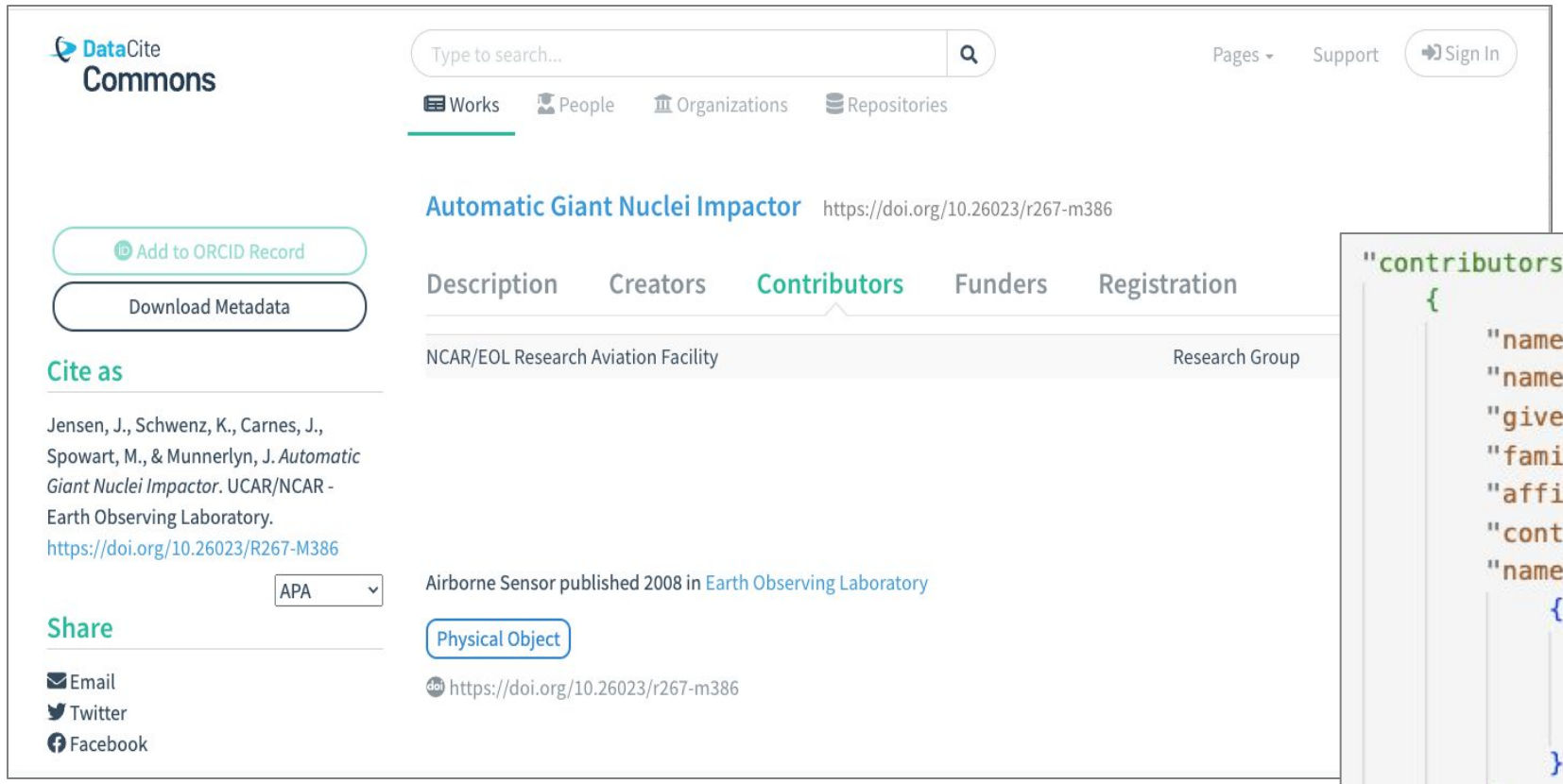

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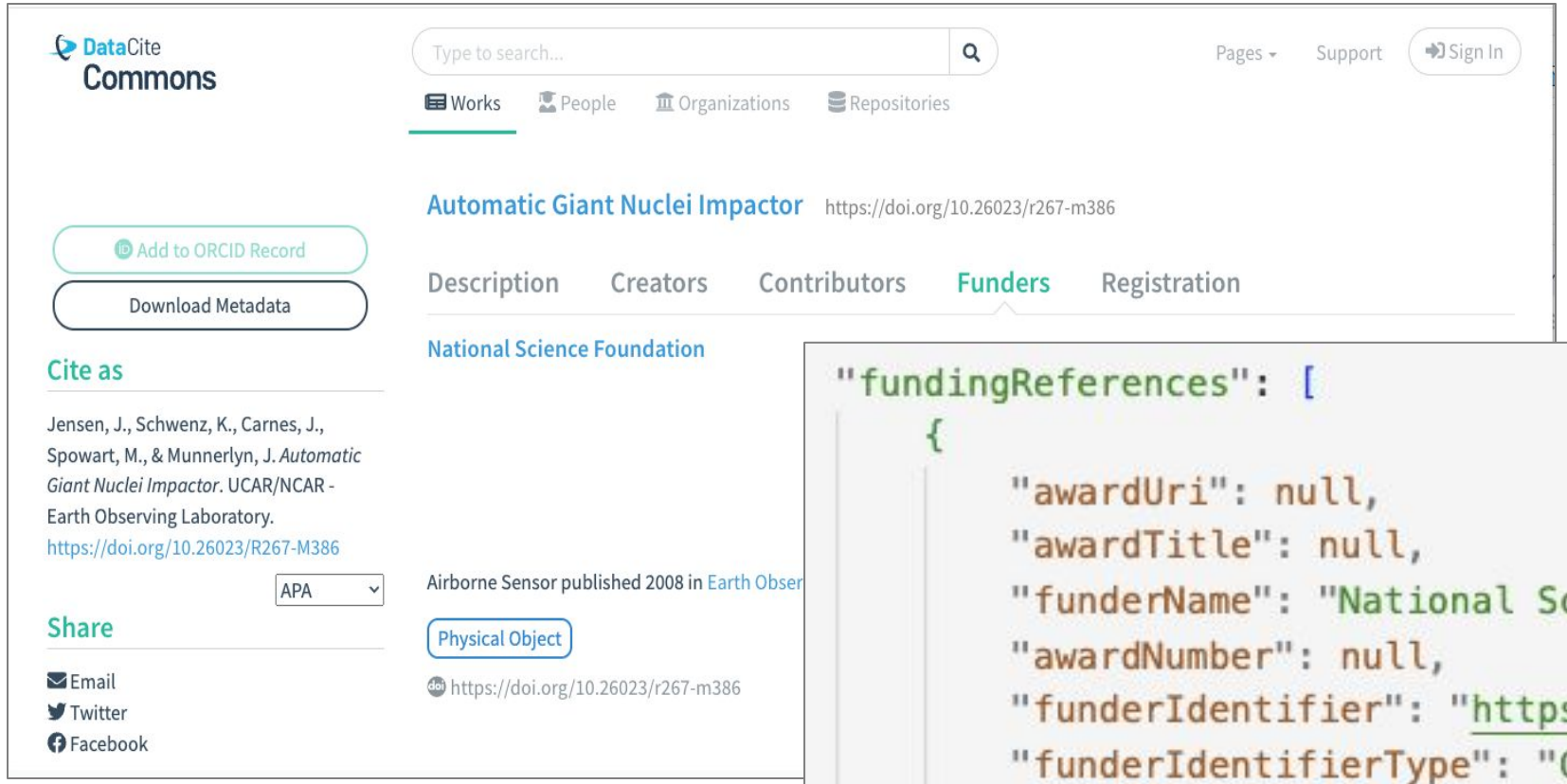

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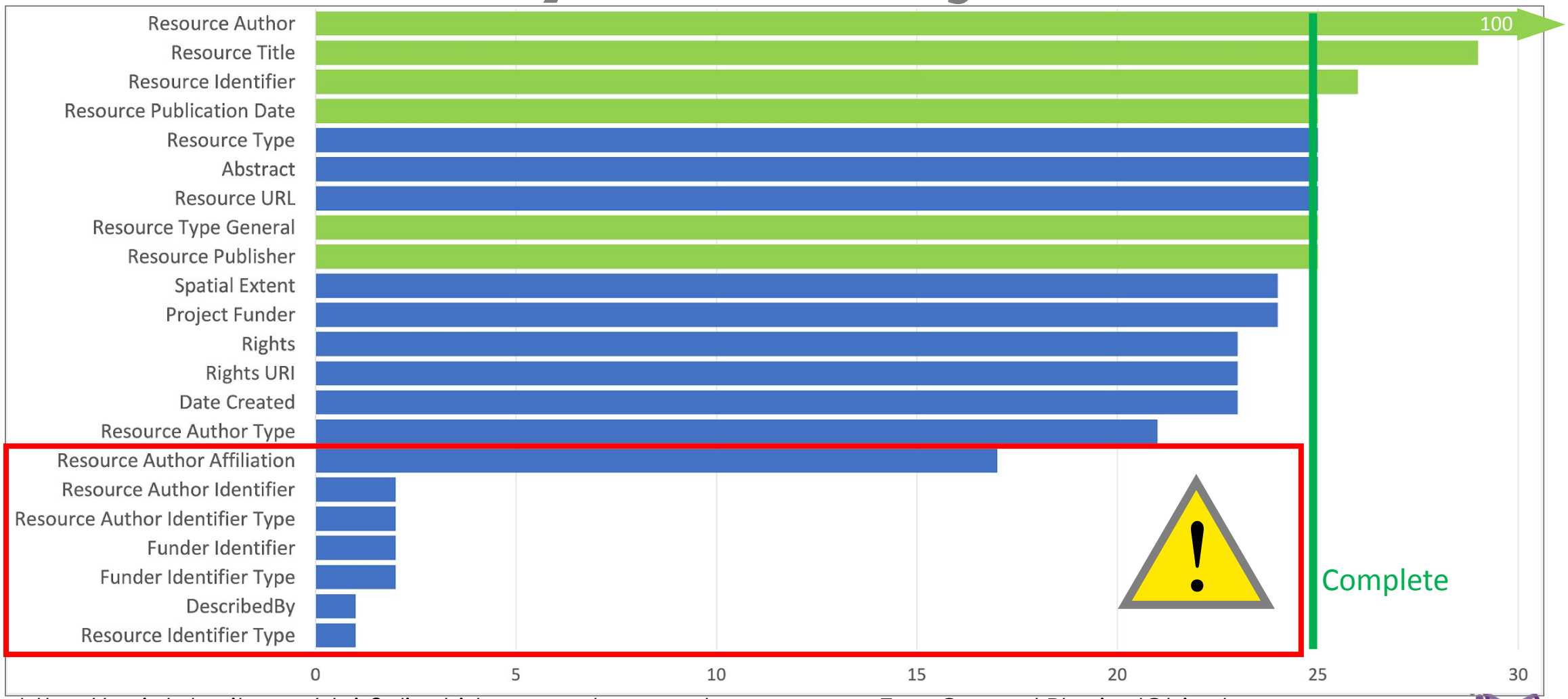
ucar.eol.PhysicalObject.Content



https://api.datacite.org/dois?client-id=ucar.eol&query=types.resourceTypeGeneral:PhysicalObject

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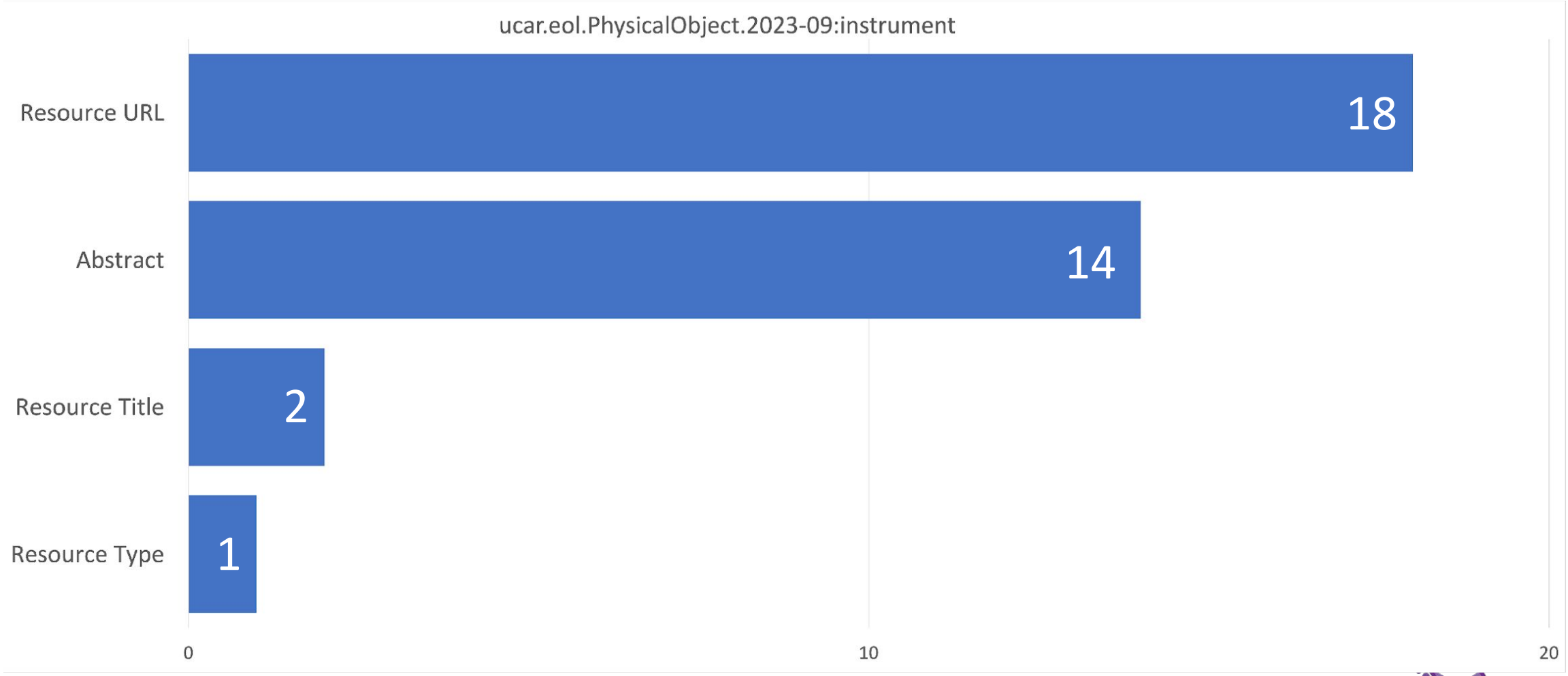
Where is “instrument”?



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resourceURL = Landing Page

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Vertical Cavity Surface-Emitting Laser (VC Hygrometer

Short Name or Variable Name

VCSEL

The VCSEL hygrometer employs tunable diode laser absorption spectroscopy to determine the water va point range of -90 to +30° C. It reports the water vapor number density at 25 samples per second From humidity-related parameters such as dew/frost point, mixing ratio, etc. are derived. It is mounted on a G draws less than 20W from 120 VAC, 60 Hz.

The hygrometer operates in two absorption modes on two wavelengths near 1853 nm: wavelength mod used for high mixing ratio conditions, direct absorption on a strong line for moderately low mixing ratios, the same strong line for low mixing ratios. The sample volume is an open-path Herriott cell, giving an ab volume approximately 15 cm long and 2 cm diameter.

Measurements Provided: Water vapor concentration from which related values (mixing ratio, dew point

Typical Sampling Rates: 25 samples per second

Measurement Characteristics: 5% uncertainty from lower troposphere to lower stratosphere. 25 sample external open-path cell there is no delay or carryover between samples.

History of Significant Changes: 8/2010: Replaced gold mirrors with more rugged dielectric mirrors. 2013: group. 7/2018: Significant repair. Recalibration required.

Example(s) of Measurement:

Data shown below is the one second housekeeping data (beginning with SWS) and the 25 samples per data. Not shown is the spectrum which is generated every 5 minutes for QC check. Data lines are termin

The 25 s/s data record consists of the number density (#/cc), laser intensity, approximate dew point (°C averaged, normally 60.

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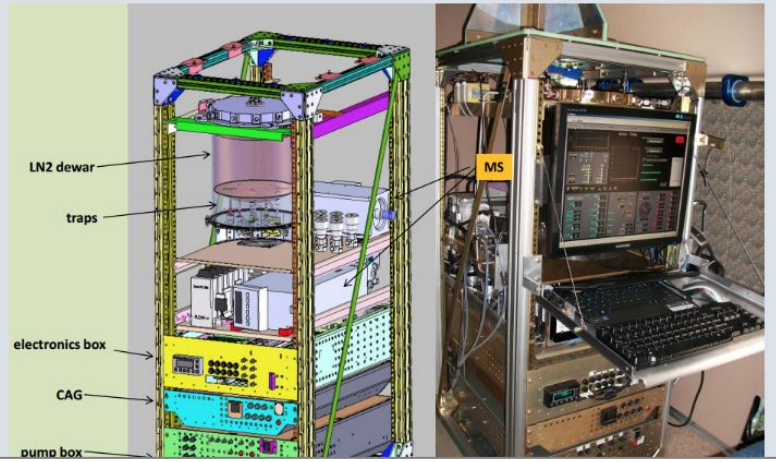
Trace Organic Gas Analyzer

Short Name or Variable Name

TOGA

Website: https://www2.acom.ucar.edu/voc-measurements/measurement-instrumentation

TOGA is a fast gas chromatograph combined with a mass spectrometer (MS). Its main components are: Pump box, clean air generator/calibrator (CAG), electronics box, MS electronics/flow controllers, MS chamber and high vacuum pumps, and LN2 dewar assembly. These are shown below in the rack schematic and photograph:



Deployments

ACCLIP

TI3GER

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ORCIDs for People

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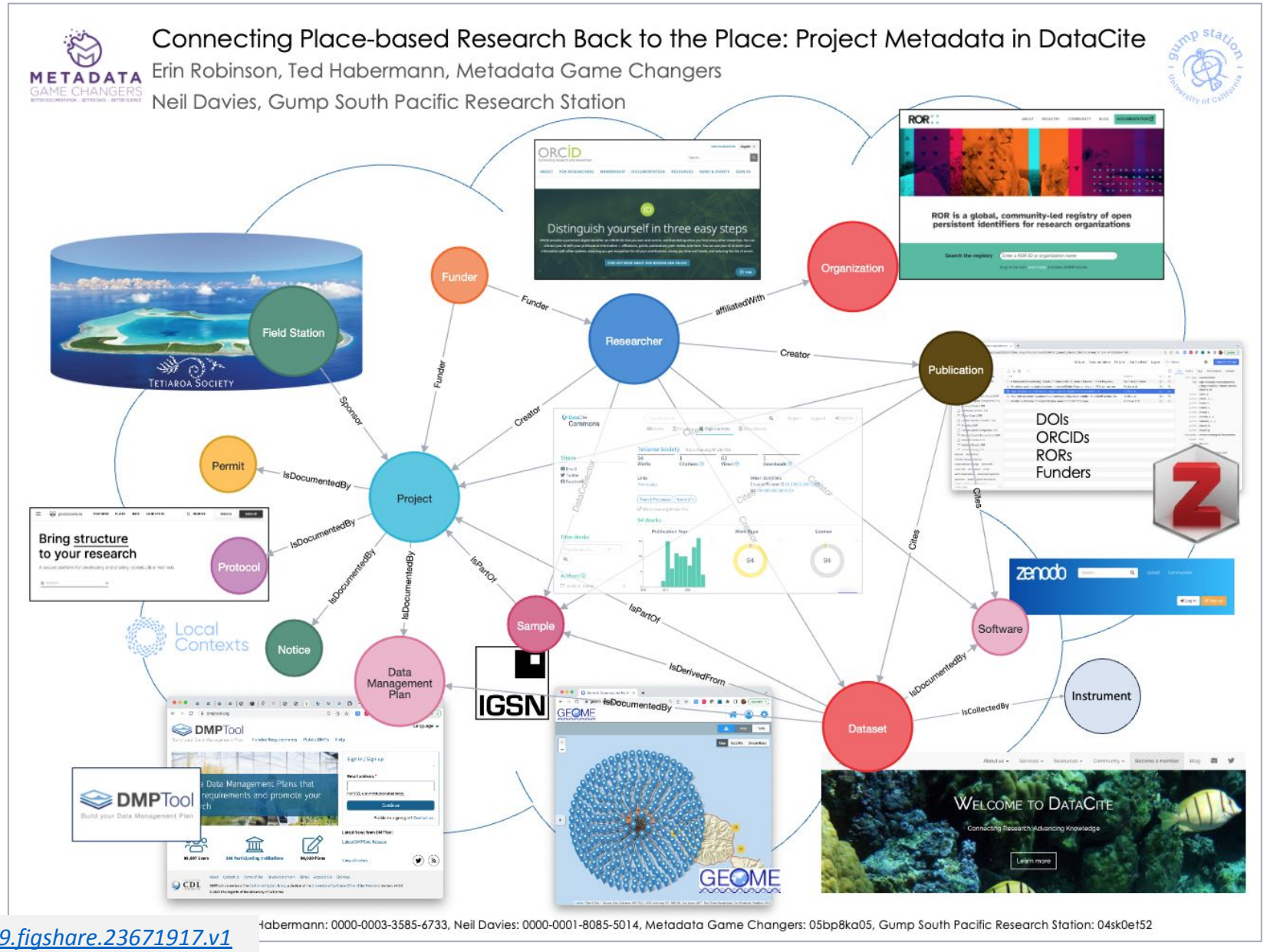

Habermann: 0000-0003-3585-6733, Neil Davies: 0000-0001-8085-5014, Metadata Game Changers: 05bp8ka05, Gump South Pacific Research Station: 04sk0et52

https://doi.org/10.6084/m9.figshare.23671917.v1

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Questions?

Work with us on:

- Repository Re-curation
- Repository and Journal Connectivity
- Metadata evaluation and improvement (FAIR metadata)
- Community building strategy
- International Metadata Standards (ISO, DataCite, schema.org)
- Workshop design and facilitation
- Community conventions / profiles
- Leadership coaching

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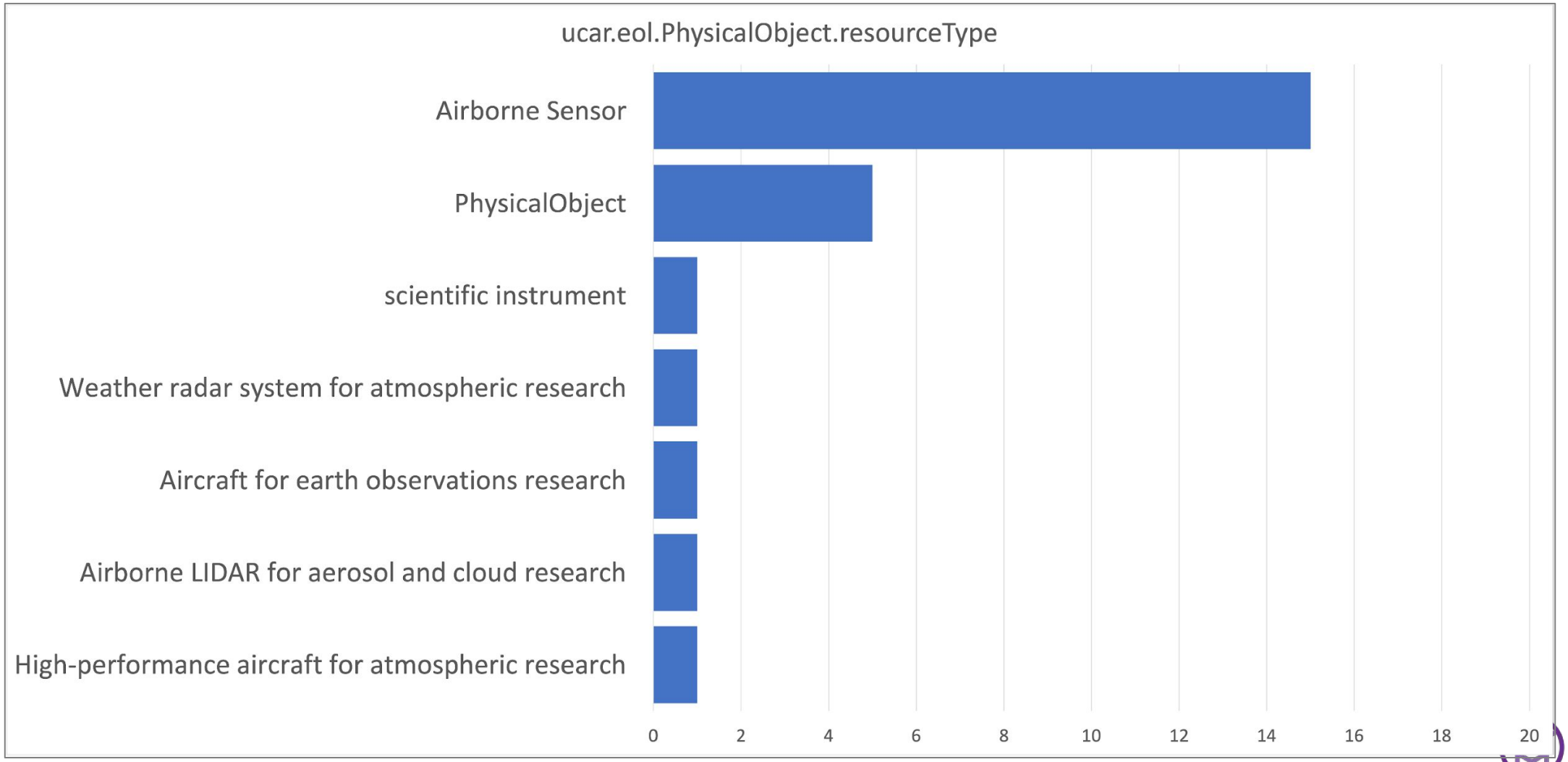
PhysicalObject.resourceType



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