RUTGERS
University Libraries

Research Resources in Physics and Astronomy

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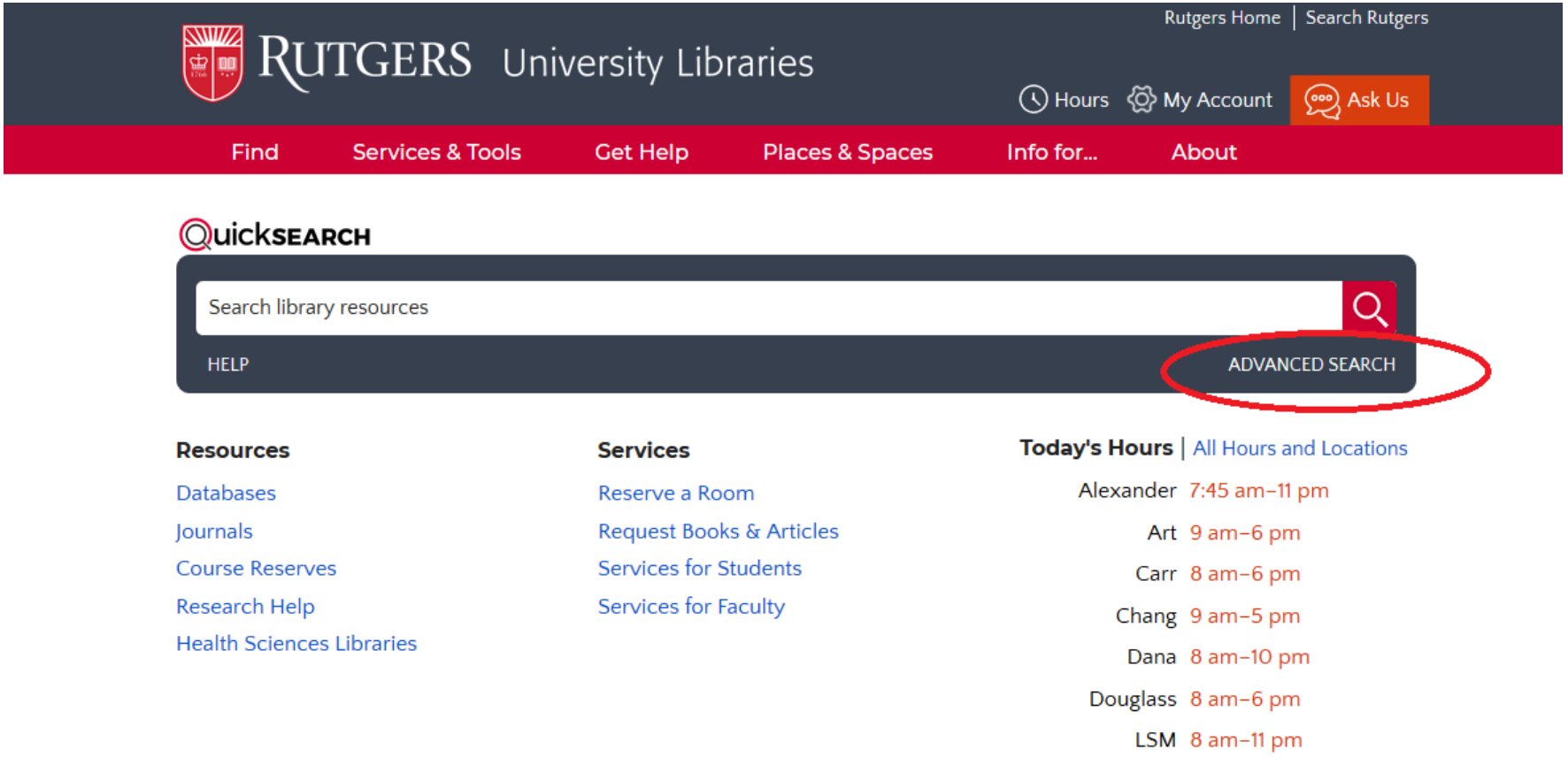
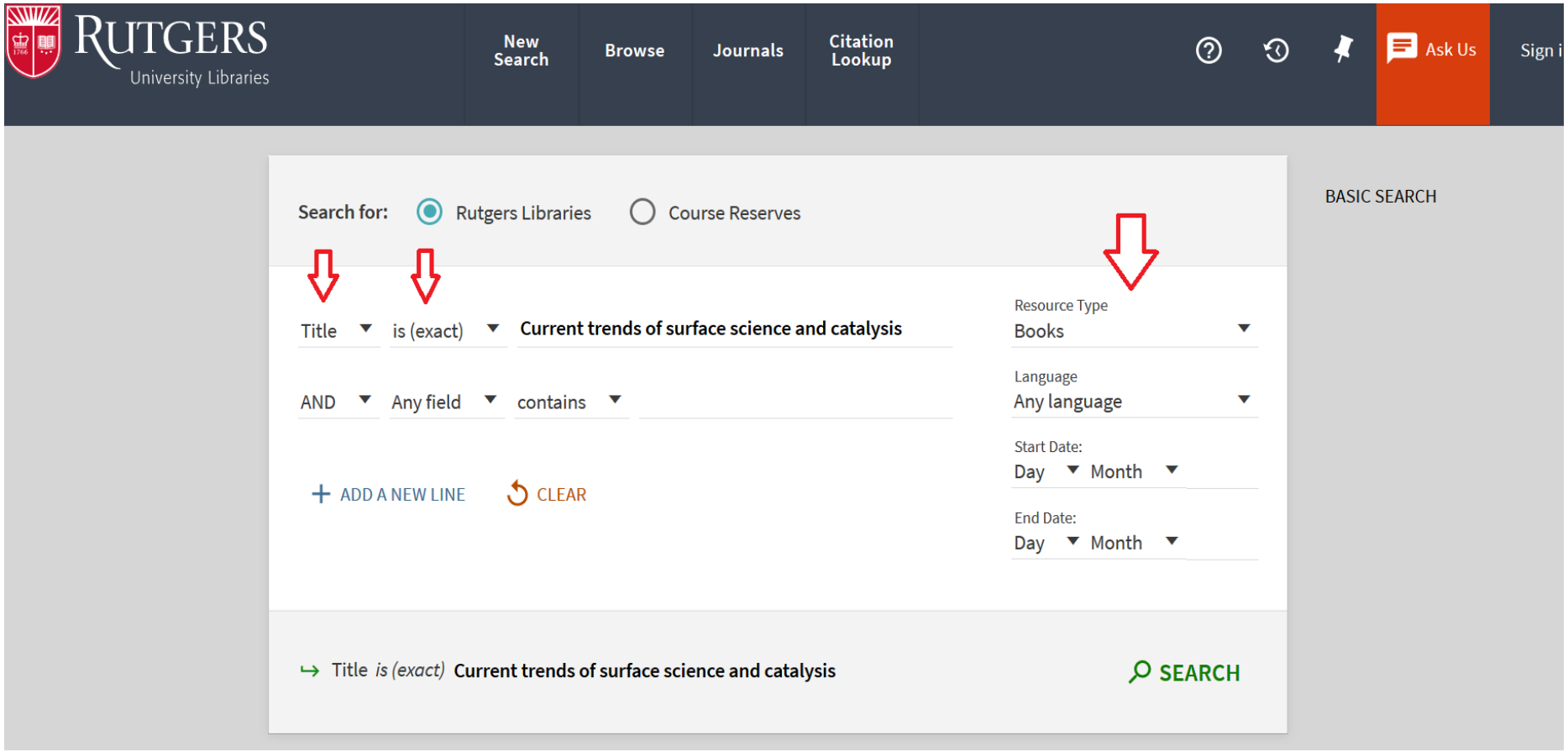
Science Data Specialist

December 3, 2019

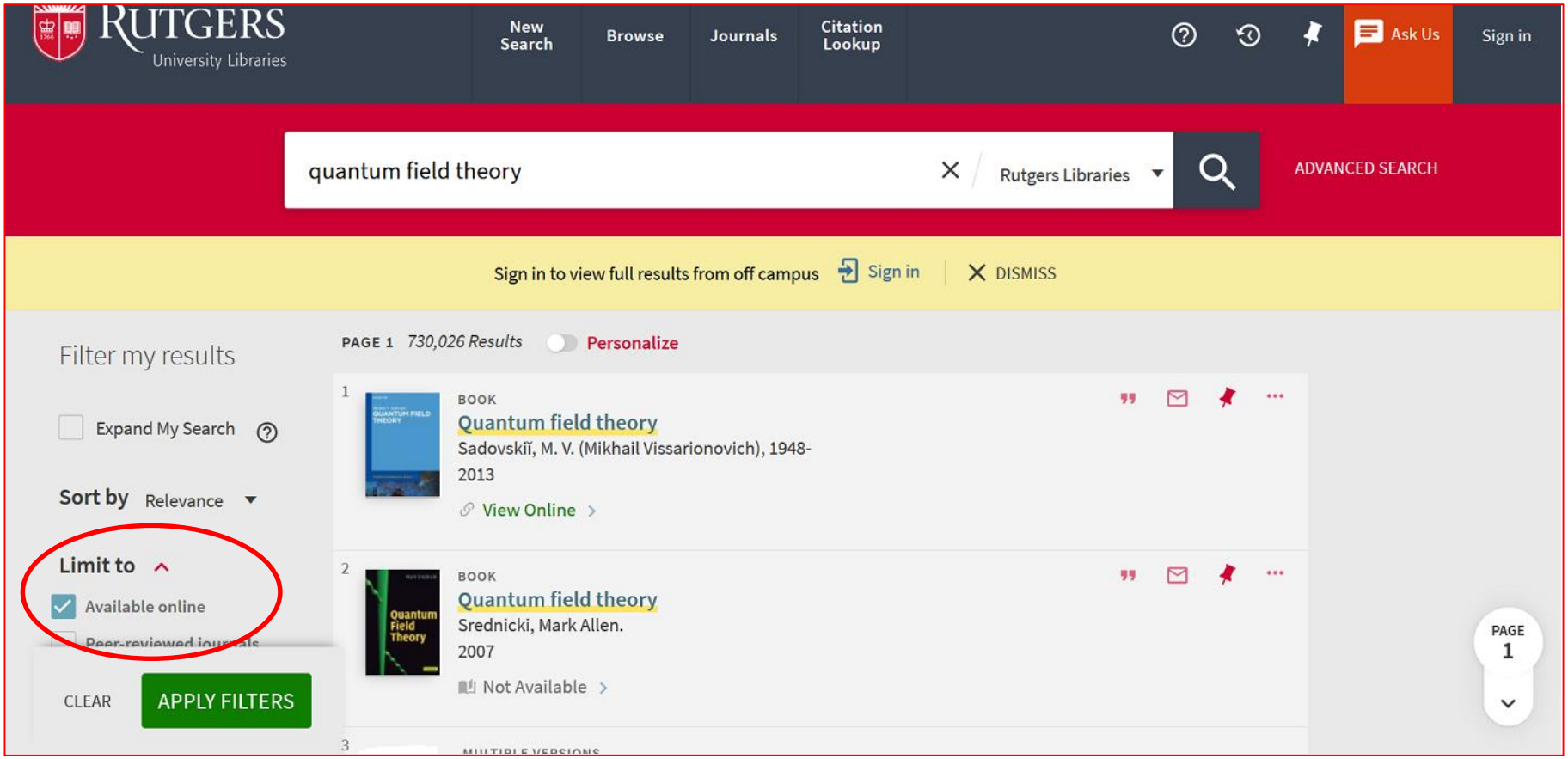
https://www.libraries.rutgers.edu/



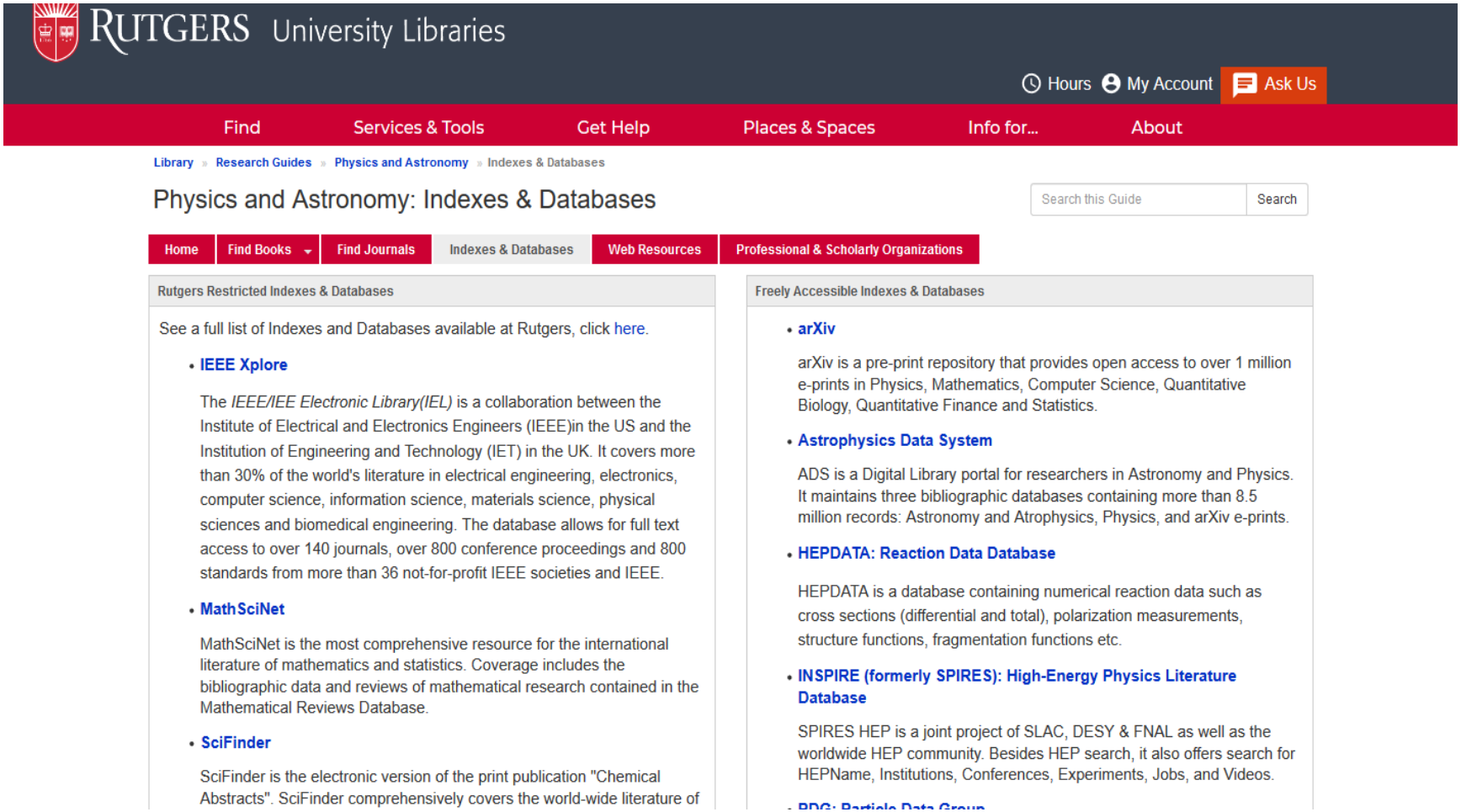
Advanced search for known items



Use limiters



http://libguides.rutgers.edu/physics



Databases to consider:

Rutgers restricted- log in through the Libraries website if not on campus

IEEE Xplore http://www.libraries.rutgers.edu/indexes/ieee

Quantum computing, semiconductors, nanomaterials, biological physics

MathSciNet
http://www.libraries.rutgers.edu/indexes/mathscinet

Mathematical physics

SPIE Digital Library

https://www.libraries.rutgers.edu/indexes/spie

Optics and photonics

Databases

Web of Science
http://www.libraries.rutgers.edu/indexes/web_of_science
Useful for cited reference searches

Scopus
https://www.libraries.rutgers.edu/indexes/scopus
Similar to Web of Science

- **Uses different metrics (ex: SNIP Source Normalized Impact per Paper vs. JIF Journal Impact Factor)**
- **Indexes different sources**

Databases

SciFinder
http://www.libraries.rutgers.edu/indexes/scifinder_scholar
Chemistry- use for condensed matter physics

- Need to create account- must be on campus, use Rutgers e-mail to register **(See instructions for creating an account)**
- After initial registration, can use off campus

Reaxys
https://www.libraries.rutgers.edu/indexes/reaxys
Another option for chemistry/condensed matter physics

- No account needed
- Simplified search

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INSPIRE

Welcome to INSPIRE, the High Energy Physics information system. Please direct questions, comments or concerns to feedback@inspirehep.net.

HEP :: HEPNAMES :: INSTITUTIONS :: CONFERENCES :: JOBS :: EXPERIMENTS :: JOURNALS :: HELP

HEP Search

High-Energy Physics Literature Database

Use "find " for SPIRES-style search (other tips)

Brief format | Search | Easy Search | Advanced Search

find j "Phys.Rev.Lett.,105*" :: more

HOW TO SEARCH

SPIRES syntax is (mostly) supported (requires "find")

- find a richter, b and t quark and date > 1984
- find j phys.rev.,D50,1140 or j jhep,0903,112
- find eprint arxiv:1007.5048 (Note the plots available on the detailed record)
- find fulltext "quark-gluon plasma" (Note new "fulltext" operator)
- find a ellis and refersto a witten (Note "refersto")
- find a kane and citedby title SUSY and topcite 200+ (Note "citedby")

New techniques:

HEP

- Additions
- Corrections
- Search Tips
- FAQ
- Topcites: annual | recent
- Reviews
- HEP Citesummary
- Tools

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RESOURCES

- ADS

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Easy Search Interface

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HEP :: HEPNAMES :: INSTITUTIONS :: CONFERENCES :: JOBS :: EXPERIMENTS :: JOURNALS :: HELP

Easy Search

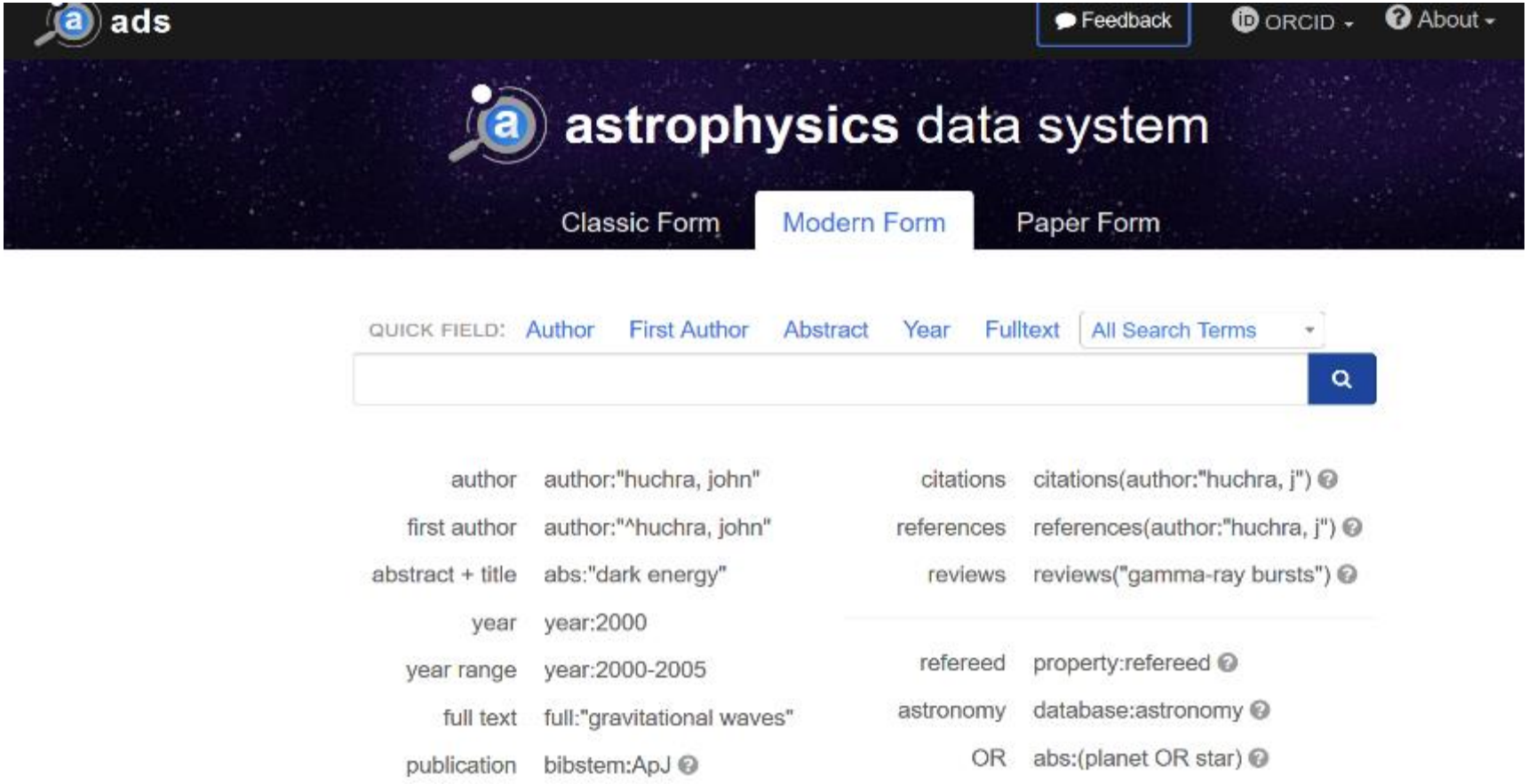
Welcome to Easy Search of HEP.

Author: gilman, r
Title:
Report Number:
Affiliation: rutgers
Collaboration:
Keywords:
Eprint: Any Type Number
Topcite: Don't care
Journal: Any Journal vol: pg:
Date: until:

Search

ADS Astrophysics Data System

https://ui.adsabs.harvard.edu/



Citation Managers

[Comparing Zotero, Mendeley, and Endnote Web]

[Citation Management Tools available through Rutgers Libraries]

[LaTex Basics for Students]

Did you know…

Rutgers University Libraries have data experts ready to help you with:

- **Data Management Plans**
- **Guidance on Access and Preservation of Research Data**
- **Data Management Best Practices**

A brief history of data sharing requirements

- As of **January 2011**, **NSF** is requiring a two page **Data Management Plan**. DMPs are subject to peer review; proposals without a plan will be rejected.
  http://www.nsf.gov/bfa/dias/policy/dmpdocs/che.pdf
- **February 2013**: Office of Science and Technology Policy requires public access to literature and data for 15 federal agencies (R&D budgets >$100 M)
  http://www.nsf.gov/news/news_summ.jsp?cntn_id=127043
- **January 2014** Omnibus Spending Bill includes Departments of Labor, Health and Human Services, and Education in public access mandate

Data sharing timeline

- **March 2015 NSF** update: "Today's Data, Tomorrow's Discoveries" outlines expectations for publishing, sharing data
  http://www.nsf.gov/pubs/2015/nsf15052/nsf15052.pdf
- By the end of **2016**, 16 Federal Agencies require public access plans
- In **2017,** we saw some Federal Agency sites shut down, their data removed
- **OSTP Letter to the US Research Community** about research security, working with international researchers, declaring conflicts of interest

We can help you

Create or advise on Data Management Plans for Federal Agencies

NSF Data Management Plans

An **NSF DMP consists of 5 components**, which describe:

- **Products of research:** spectra, diffraction patterns, physical properties, computational strategies, software, numerical results, etc.

- **Data Format:** instrument output, html, file types- .jpg, .tif... Conversions may be necessary. File names and versions should be standard. Metadata is required.

- **Access to Data and Data Sharing Practices and Policies:** how your data will be made freely accessible. Websites, HEP Data, SIMBAD Astronomical Database…

DMP components

- **Policies for Re-Use, Re-Distribution, and Production of Derivatives:** Who will be able to use your data? Will there be disclaimers on your website? Conditions concerning publication?

- **Archiving of Data:** How will it be preserved? Will hardcopies be transferred to digital format? Will digital media be migrated? Software? How long will the data be retained?

This is a simplified list from NSF - see your directorate https://www.nsf.gov/staff/orglist.jsp

We can help

Provide resources for data management preservation and access

Recommended Data Repositories

Scientific Data mandates the release of datasets accompanying our Data Descriptors, but we do not ourselves host data. Instead, we ask authors to submit datasets to an appropriate public data repository. Data should be submitted to discipline-specific, community-recognized repositories where possible, or to generalist repositories if no suitable community resource is available.

Repositories included on this page have been evaluated to ensure that they meet our requirements for data access, preservation and stability. Please be aware, however, that some repositories on this page may only accept data from those funded by specific sources, or may charge for hosting data. Please ensure you are aware of any deposition policies for your chosen repository. If your repository of choice is not listed please see our guidelines for suggesting additional repositories.

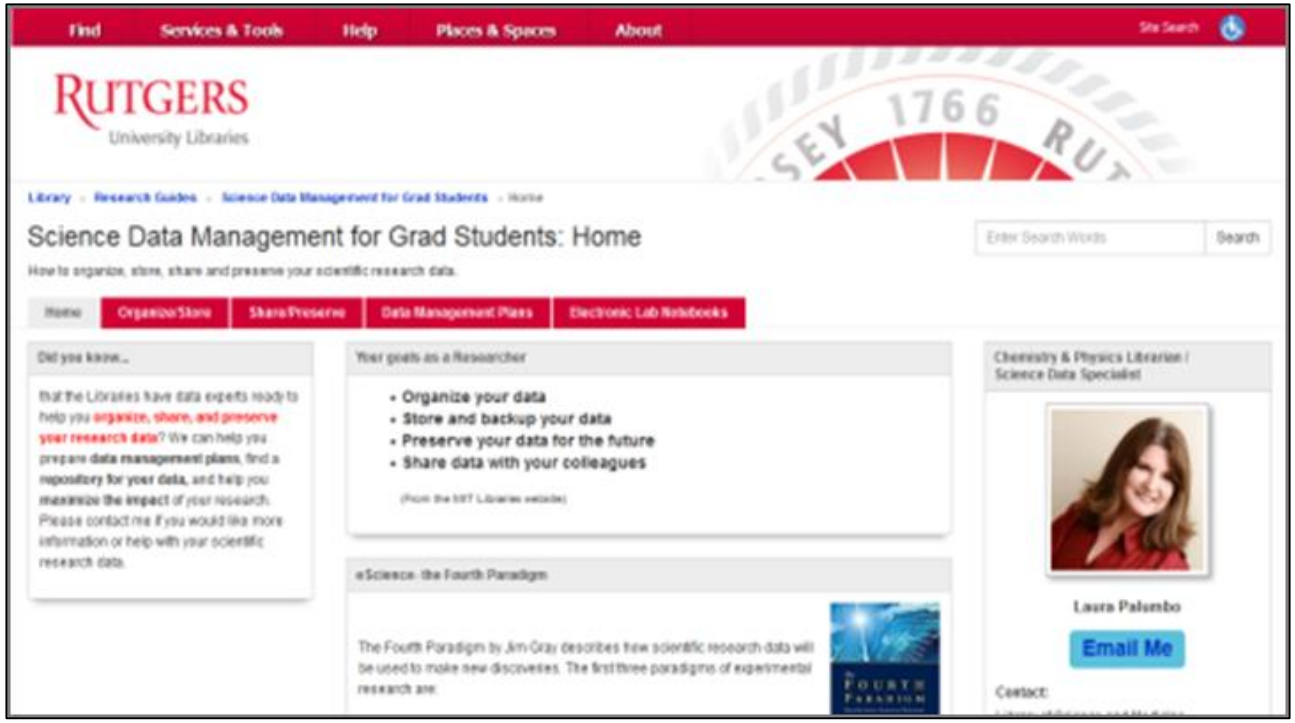
Authors must deposit their data to a recommended data repository as part of the manuscript submission process; manuscripts will not otherwise be sent for review. If data have not been deposited to a repository prior to manuscript submission, authors can upload their data to figshare or the Dryad Digital Repository during the submission process. Data may also be deposited to these resources temporarily, if the main host repository

Resources – Rutgers University Libraries

Research Guides- Science Data for Grad Students, Data Management

http://libguides.rutgers.edu/grad_sciencedata

https://libguides.rutgers.edu/datamanagement



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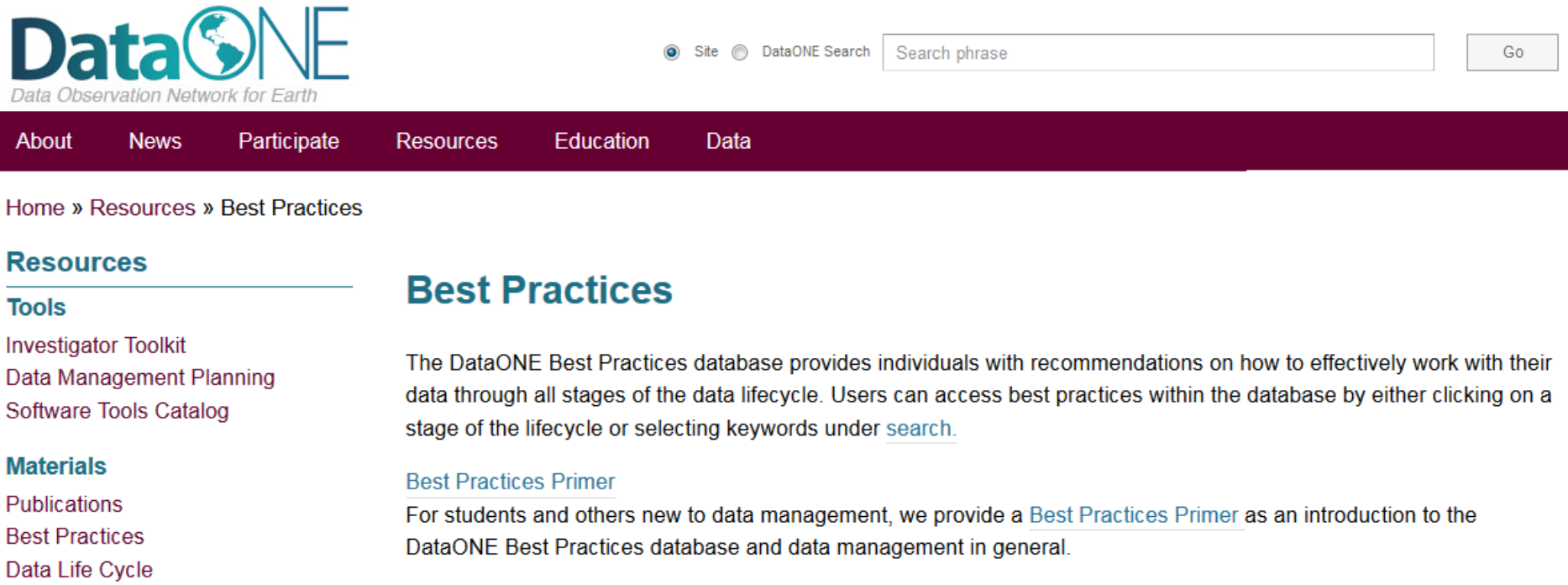
We can help you with

Good Data Management practices



Good Data Management- Organizing

File naming:

- Keep it short if possible, but descriptive- 25 characters. Names should be easily understood by colleagues
- 3 letter file types- .jpg, not .jpeg
- No special characters, no spaces, lowercase
- Use leading zeros-myfile001.tif, not myfile1.tif

Versioning:

- All versions of data need to be clearly identified
- **Be consistent! Documentation is key.**

http://ucblibraries.colorado.edu/systems/digitalinitiatives/docs/filenameguidelines.pdf

Good Data Management - Storing

Types of data:

- Raw data, working data, processed data, data for reuse

Where will you keep it?

- Department server? Hard drive of your computer? Flash drive? Paper notebooks?

How will you back it up?

- External hard drive? Flash drive? In a drawer in your office? **Use the Rule of 3**

Good Data Management- Preserving

Preserving for the long term:

- Subject specific repository- re3data.org
- Institutional Repository- Rucore/Ruresearch

A website, YouTube video, or relational database are not ways to ***preserve*** your data!

Good Data Management- Sharing

How will others gain access to your data?

- Will permission be required? (Necessary for sensitive data.)
- What will happen to the data if the PI leaves the institution? Who controls access?
- How will they find your data? Persistent URLs or DOIs are good practices.

Would someone else be able to find your work?

- Cite your data: Digital Object Identifiers
- Register for an ORCID id:

  Open **R**esearcher and **C**ontributor **ID**

  What is ORCID?

  Register for an ORCID id

  http://orcid.org

Image from orcid.org

Thank you!

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