### The NASA Astrophysics Data System: Capabilities and Roadmap for the 2020s

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## First the News...

- ADS "Classic" is going away
  - Old technology hard to maintain
  - Not compliant with standards
  - Drain on resources
- Long Live ADS!
  - New interface up and running
  - Same content as ADS Classic
  - More functionality and features
- Transition plan:
  - Oct 18: ADS Classic use discouraged
  - Jan 19: ADS Classic deprecated
  - May 19: ADS Classic shut down





## You can still...

• Search by author

author:"kurtz, m"

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# You can still...

- Search by author
- Search by author and year

author:"kurtz, m"

author:"kurtz, m" year:2010

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# You can still...

- Search by author
- Search by author and year
- Search by first author

| author:"kurtz, m"           | ۹ |
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| author:"kurtz, m" year:2010 | ٩ |
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## But now also...

- Search by author
- Search by author and year
- Search by first author
- Search fulltext

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| full:(HST or JWST)          | Q |

## But now also...

- Search by author
- Search by author and year
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| author:"kurtz, m"           | ٩ |
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## But now also...

- Search by author
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- Search affiliations
- Search ORCIDs

| author:"kurtz, m"           | ۹ |
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| aff:(Harvard or HCO or SAO) | ۹ |
| orcid:000-0002-4110-3511    | Q |

### And easily compute metrics...



### As well as analytics





A sample of the 1,000 top-cited papers in ADS acknowledging NASA funding or affiliation.

- Maps of Dust Infrared Emission for Use in Estimation of Reddening and Cosmic Microwave Background Radiation Foregrounds Schlegel et al, 1998ApJ\_S00\_5255
- Citations: 9216, Reads: 559 2. Observational Evidence from Supernovae for an Accelerating
- Universe and a Cosmological Constant Riess et al, 1998AJ....116.1009R Citations: 8693, Reads: 928
- First-Year Wilkinson Microwave Anisotropy Probe (WMAP)
- Observations: Determination of Cosmological Parameters Spergel et al, 2003ApJS. 148.1755 Citations: 8040, Reads: 407
- Seven-year Wilkinson Microwave Anisotropy Probe (WMAP Observations: Cosmological Interpretation Kumotsu et al, 2011ApJS. 192...18K
- Citations: 5253, Reads: 577 5. Planck 2013 results. XVI. Cosmological parameter
- Plank Collaboration, 2014A&A...571A..16P Citations: 3075, Reads: 2563
- Detection of B-Mode Polarization at Degree Angular Scales by BICEP2 Bicep2 Collaboration, 2014PhRvL112x1101A Citations: 1085. Reads: 824
- 7. emcee: The MCMC Hammer
- Foreman-Mackey et al, 2013PASP., 125., 306F Citations: 329, Reads: 1200

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# **ADS Program for the next two years**

#### **Complete System Transition**

- Achieve complete functional parity of new Platform and User Interface
- Update remaining services and infrastructure: myADS (notifications), citation processing, fulltext archive, API access to crawlers and applications

#### Improve content and Curation

- Ingest software records, track software citations
- Enable collaborative curation of ADS Libraries
- Improve coverage of exoplanet literature, data products
- Enrich records with normalized affiliations, keywords, ORCID mappings

# **Opportunities and Challenges in the 2020s**

### **Content and Curation**

- Data Citation: Index (high-level) data products as cited in the literature
- "Big Data" challenges: hyper-authorship (large collaborations), rapid publications (transients), living papers (versioning)

### **New functionality**

- Scale up networks, metrics, analytics to support studies at institutional level
- Leverage machine learning for search, recommendations, citation analysis
- Support community-based text mining efforts vs. copyright restrictions
- Become a clearinghouse for text-based search on both literature and data

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- What other data products should be indexed in ADS? Do data and software citations matter if they are not reflected in ADS citation counts?

### Talk to us!

In person:

AAS 232, Collaboration and Hacking Space, Plaza Court 6

Online:

https://twitter.com/adsabs

Through the ADS Users Group:

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

Email:

Alberto Accomazzi <<u>aaccomazzi@cfa.harvard.edu</u>> ADS Help <<u>ads@cfa.harvard.edu</u>>