

Use Patterns of Print and Electronic Journals

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Studies

- Surveys of the American Astronomical Society (AAS) members in cooperation with the AAS (2001-2002)
- Two user surveys with over 1,000 responses

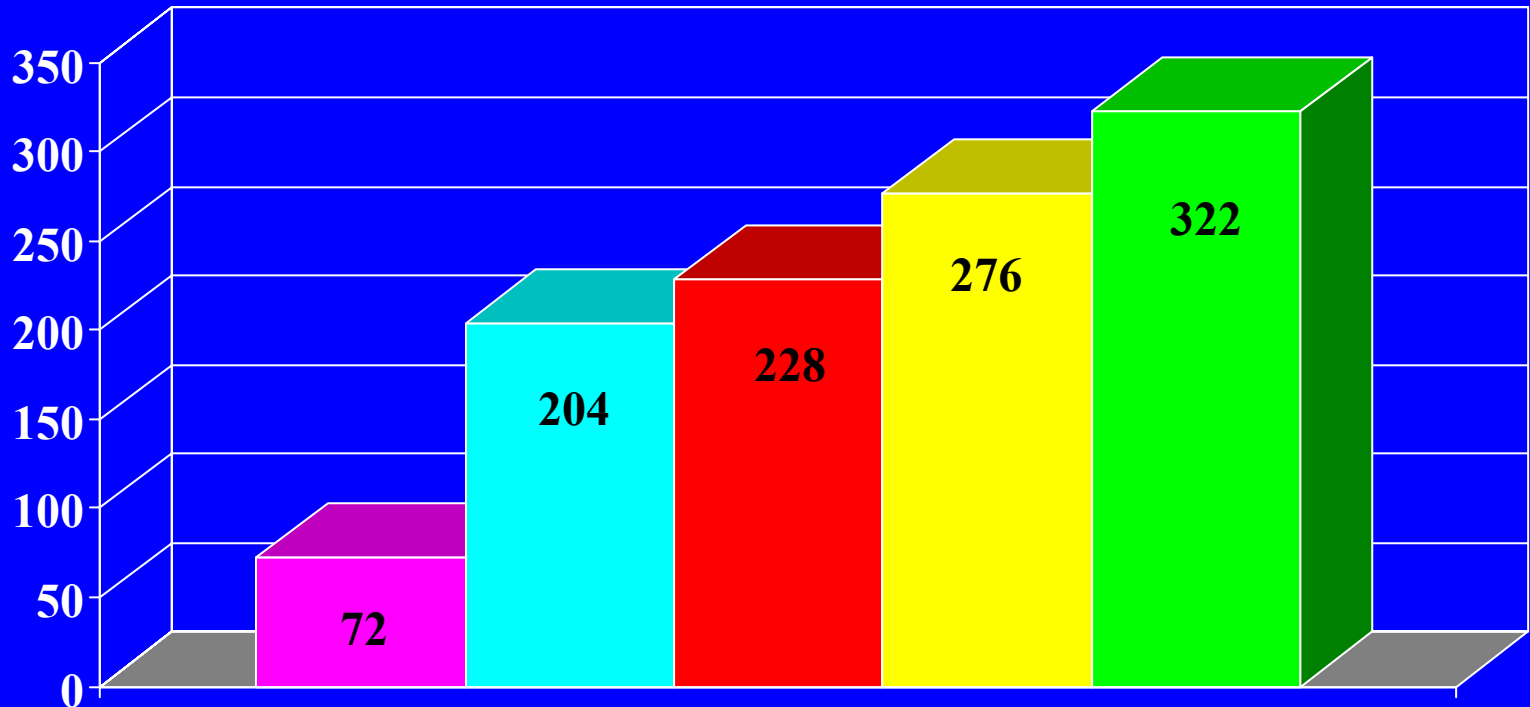
Surveys

- AAS 1 and 2
- University of Tennessee Science, Social Science and Engineering Faculty
- University of Tennessee Medical Faculty
- ORNL
- National Surveys since 1977

Two Surveys of AAS Members

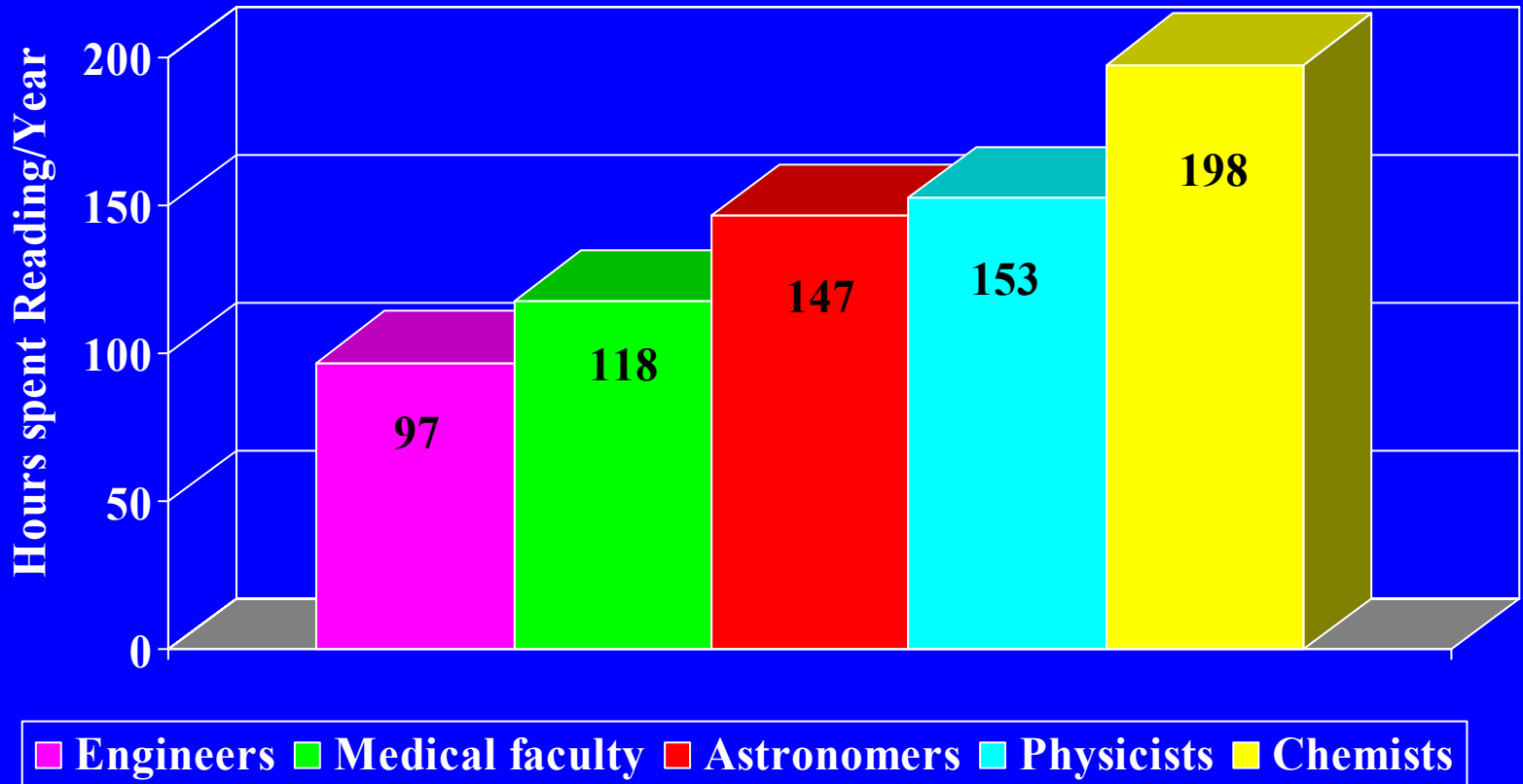
- Survey 1
 - Explored reading patterns and journal use
 - The questionnaire for Survey 1 can be found at http://web.utk.edu/~tenopir/Astronomy_Survey.html
- Survey 2
 - Explored use of electronic journals and asked users to rate electronic journal features
 - the questionnaire for Survey 2 is located at http://web.utk.edu/~tenopir/AAS_Survey.html

Scholarly Article Readings by Work Field



Engineers Physicists Astronomers Chemists Medical Faculty

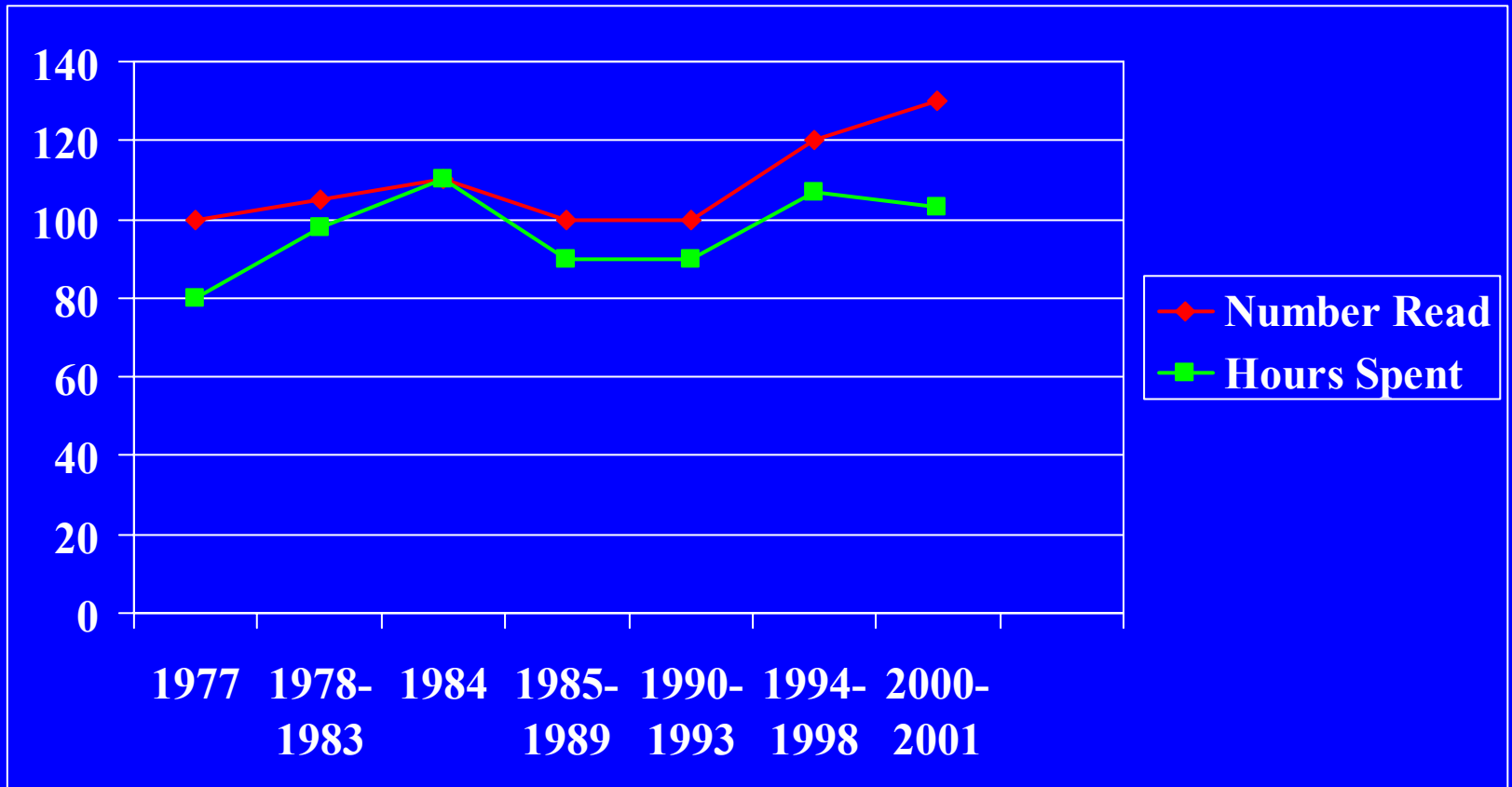
Time Spent Reading by Work Field



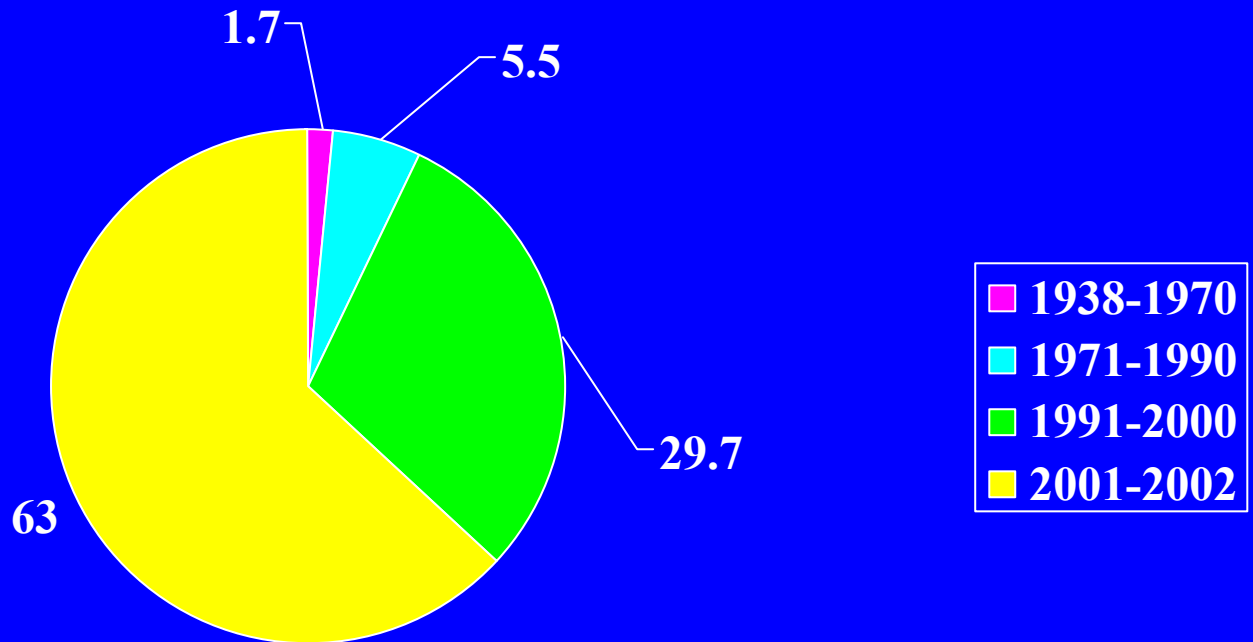
Time spent reading per article

University Medical Faculty	22 minutes per article
Astronomers	39 minutes per article
Chemists	43 minutes per article
Physicists	45 minutes per article
Engineers	81 minutes per article

Time Spent and Number of Articles Read



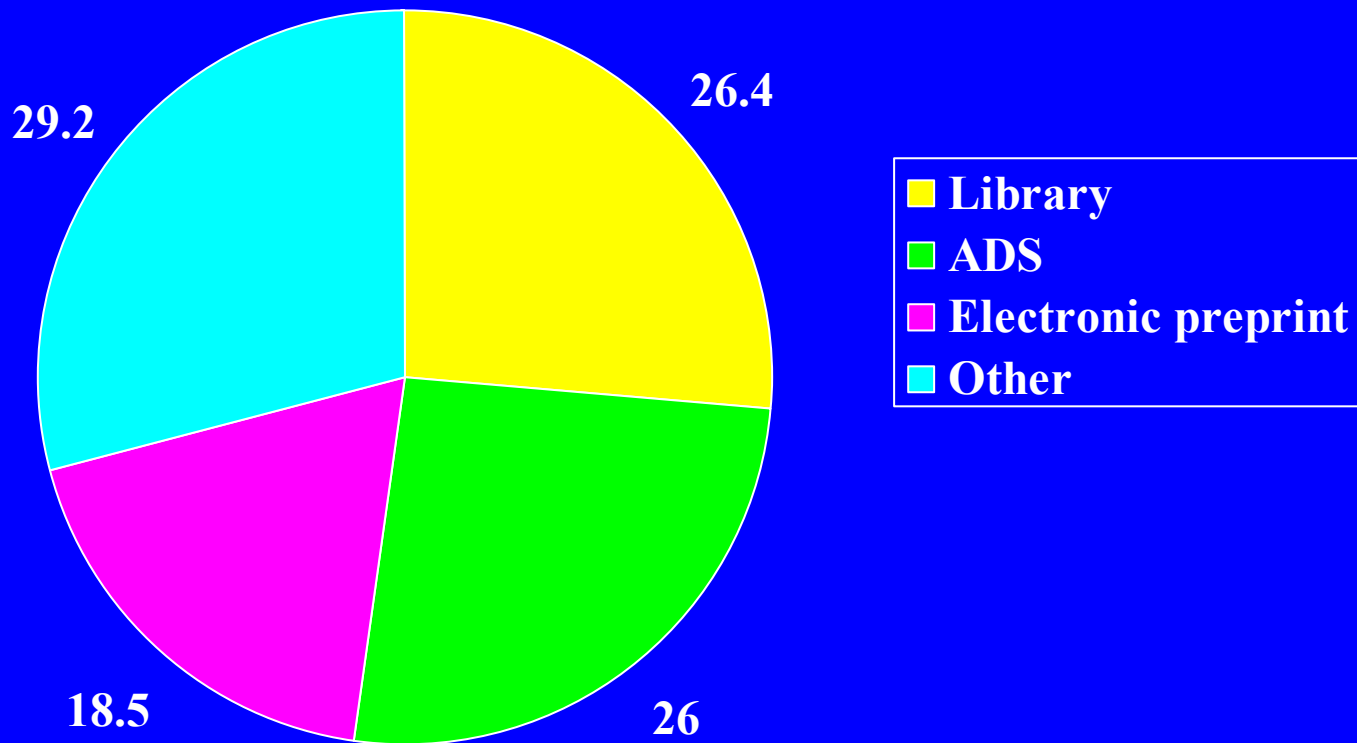
Age of Readings



Electronic Articles Reading

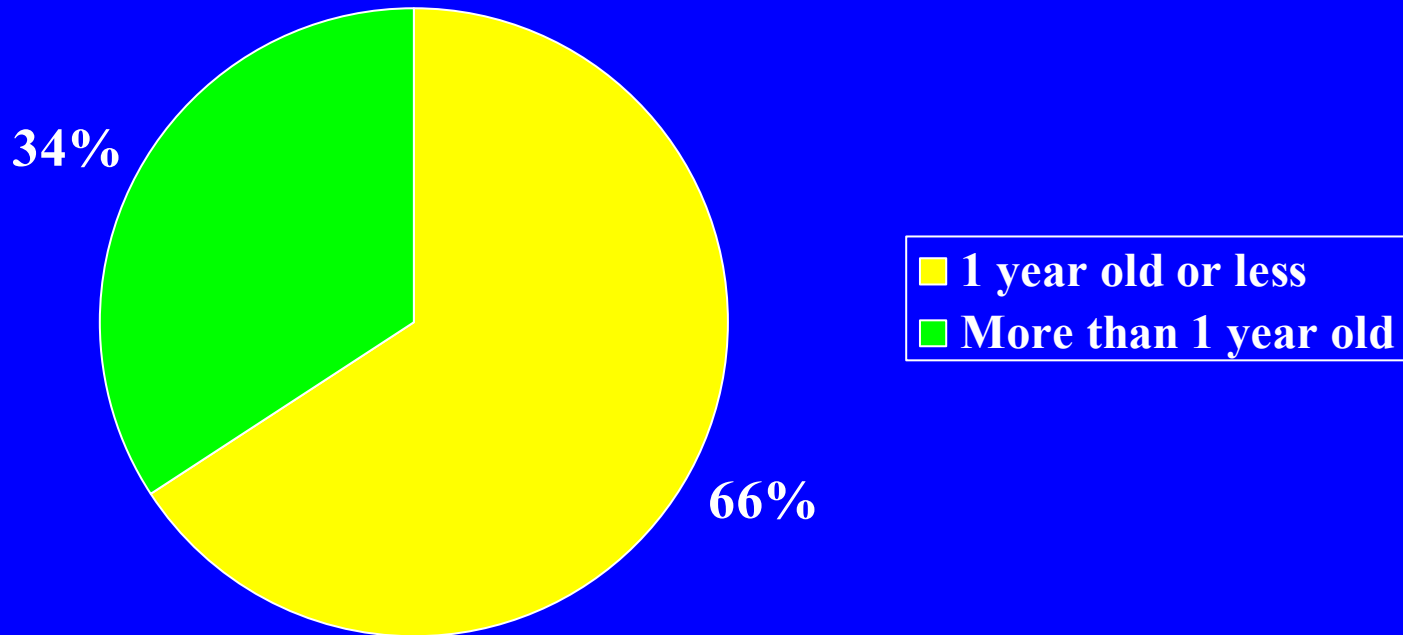
	E-journals	E-prints	Other	Total
AAS	58.6%	18.3%	2%	78.9%
ORNL	17.3%	3.6%	14%	34.9%
UTK	15%	~15%	5%	~35%

Source of Electronic Articles

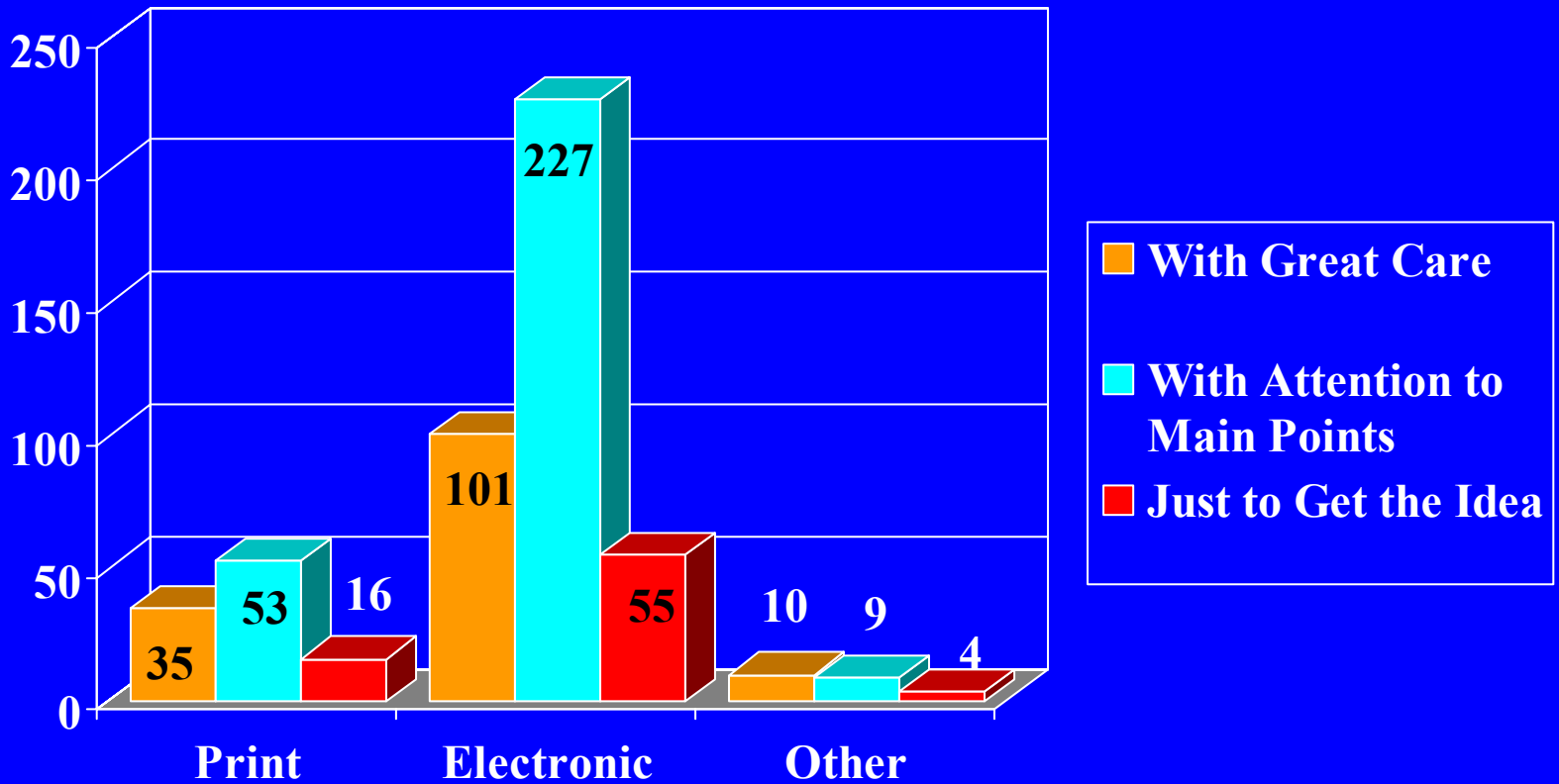


Age of Digital Articles Read

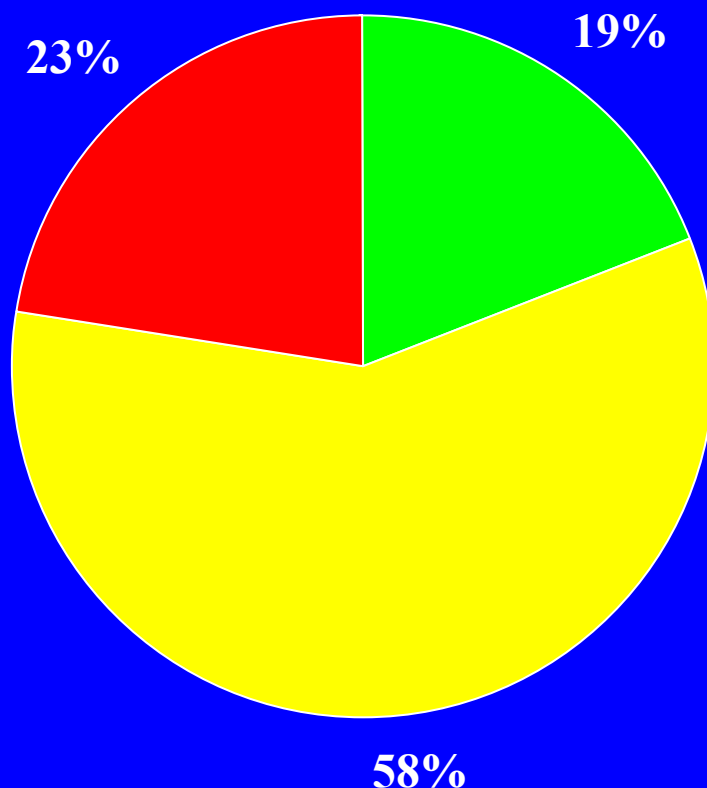
AAS astronomers' readings from digital media



Manner of Reading



Preferred Formats (AAS)



- Percent of print articles read
- Percent of electronic articles downloaded and printed off
- Percent of electronic articles read from the screen

Time Spent with Articles (Electronic Journals)

- Locating
 - 15.6 minutes per article
 - 46.8 hours per year
- Reading
 - 39.4 minutes per article
 - 118.2 hours per year

165 hours per year total

CAUTION- Preliminary Analysis Only - These numbers will change.

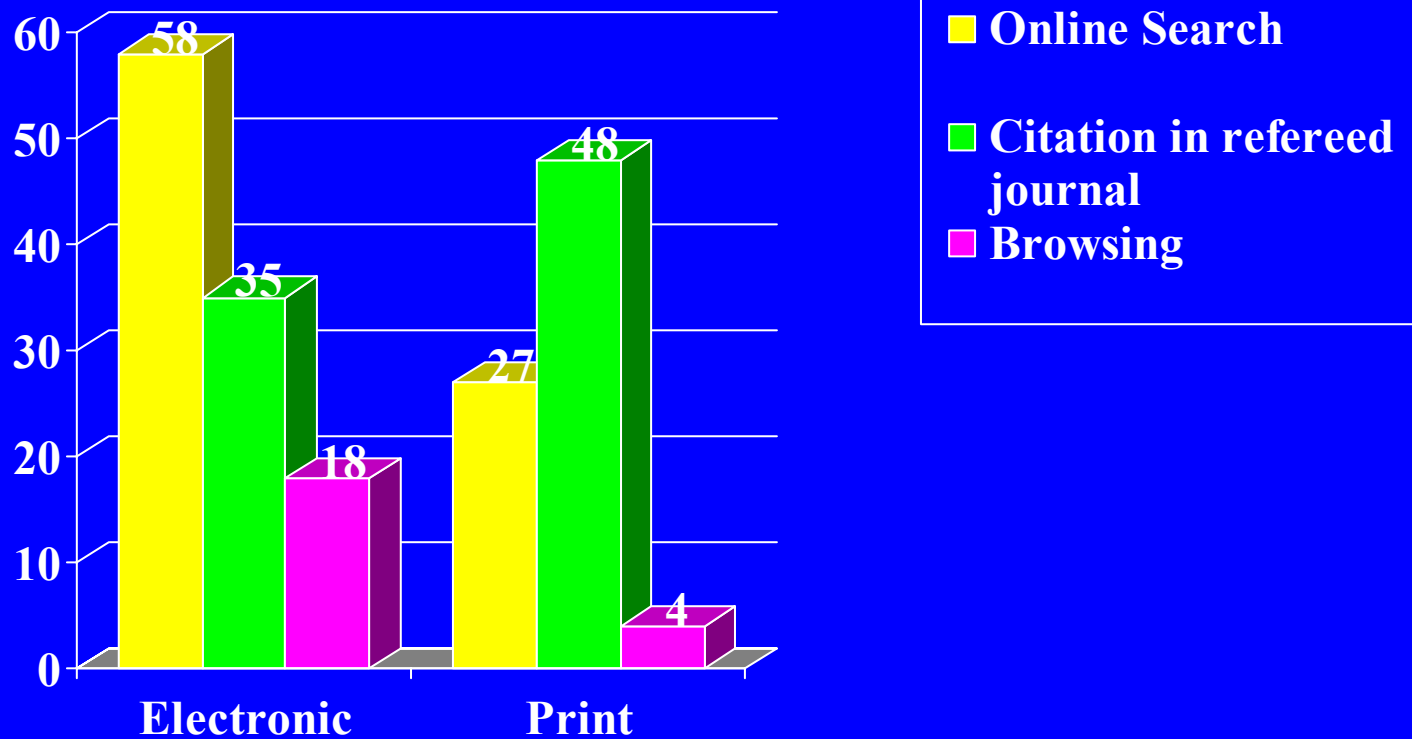
Time Spent with Articles (Print)

- Locating
 - 23.3 minutes per article
 - 18.6 hours per year
- Reading
 - 37.9 minutes per article
 - 30.3 hours per year

48.9 hours per year total

CAUTION- Preliminary Analysis Only - These numbers will change.

Manner in which articles found



Purposes of Reading

- Primary purposes
 - Primary research
 - Background research
 - Current awareness
 - Writing
- Secondary purposes
 - Teaching
 - Advising others
 - Preparing presentations.

Value of Readings

- Inspiring new thinking
- Improving the result of their task for which the reading was done
- Changing the focus of their work
- Helping to resolve technical problems
- Saving time or resources

Reasons for reading

- keeping up with current developments as well as for obtaining definitive information.
 - 72 percent of astronomers rate electronic journals as either “very useful” or “essential” for keeping up with recent developments.
- seeking definitive information
 - 96 percent of astronomers rate e-journals as either “essential” or “very useful” for delivering definitive results.

Awareness of E-print Services (in percent of respondents)

	ArXiv.org	PrePrint	Other Network
AAS	84.5%	4.7%	u/k
ORNL	49%	25%	u/k
UTK	8%	6%	4%

Contributions to Electronic Collections

- 60% of AAS member have submitted articles to arXiv.org/astro-ph services or other eprint services
- Very few use the eprint services as a complete substitute for publishing in journals

Awareness of field specific electronic resources

- 97% of AAS members know about the NASA database ADS
- over 50% use it at least every other day.
- 27% use ADS every day.
- ADS usage statistics confirm this level of activity.

Overall Observations

- Scientists use journals and e-prints for research support, current awareness, fact-finding
- AAS members have come to rely more on electronic journals than many other user groups

Attributes that enhance perceptions of usefulness (AAS)

- availability of both older and recent articles in electronic medium,
- forward and backward linkages
- preprint access
- machine readable data tables
- links to the NASA Astrophysics Data System (ADS)
- inclusion of images and color