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# Mathematics Science: A study in citation rates over time

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# Mathematics $\neq$ Science

A study in citation rates over time

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# STE & M???

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  - Both came from Natural Philosophy tradition
  - Mathematics provides the foundation for Science
  - Gauss: "Mathematics is the queen of the sciences"
- But are they really that similar?



# A Foreign Queen

- Mathematical Vs. Scientific Knowledge

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# Dataset

- Clarivate Web of Science 1900-2017
  - Big Ten Academic Alliance

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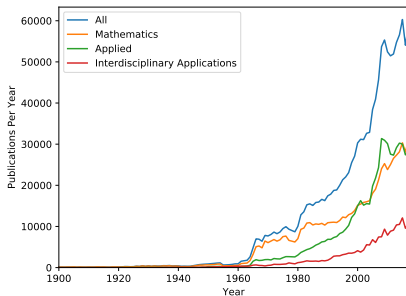
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  - Reference date errors



# Total Mathematical Publications



Mathematics	Applied	Interdisciplinary Applications	Total
742541	611160	199652	1343970

Table: Mathematical Publications in Web of Science

# Reference Age

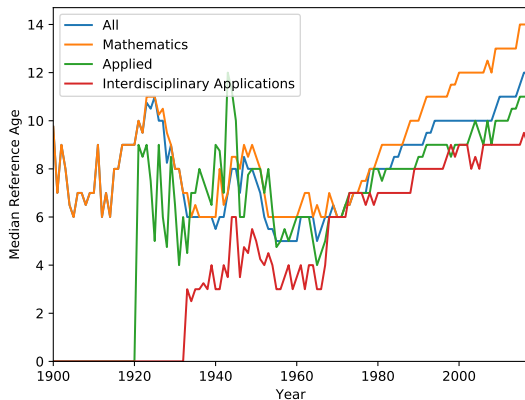


Figure: Median Reference Age for Mathematical Publications

# Citation Age

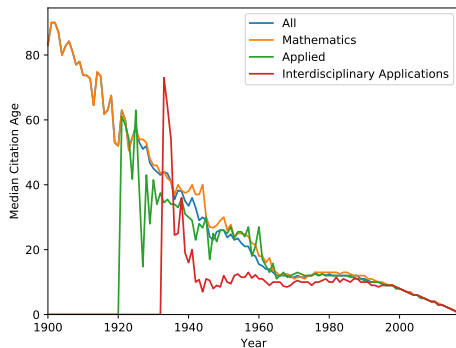


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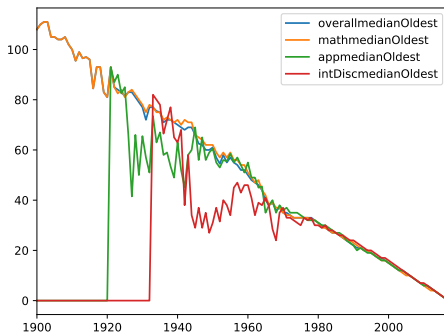


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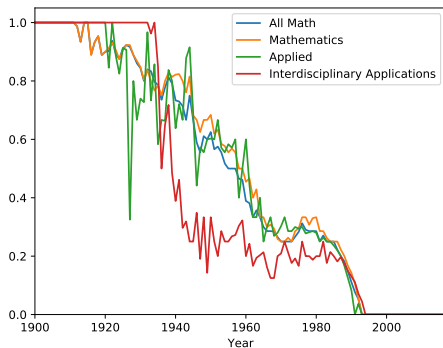
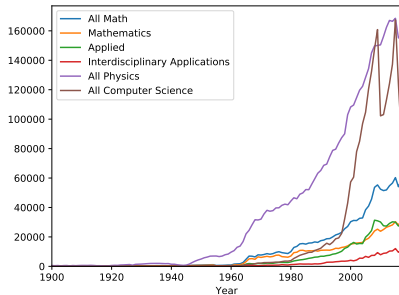


Figure: % of Citations over 20 Years Old

# Total Publications



Mathematics	Applied	Interdisciplinary Applications	Mathematics Total	Physics	Computer Science
74,2541	611,160	199,652	1,343,970	4,597,628	2,332,244

Table: Publications in Web of Science

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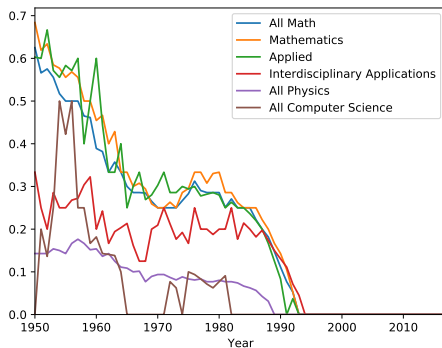


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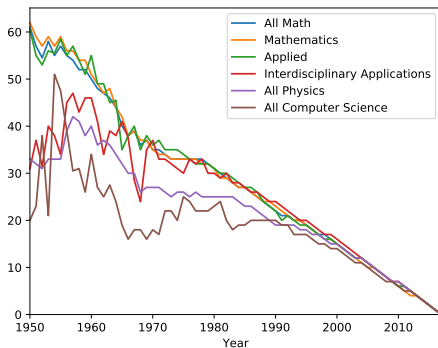


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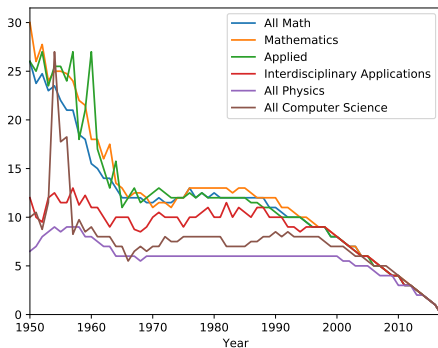


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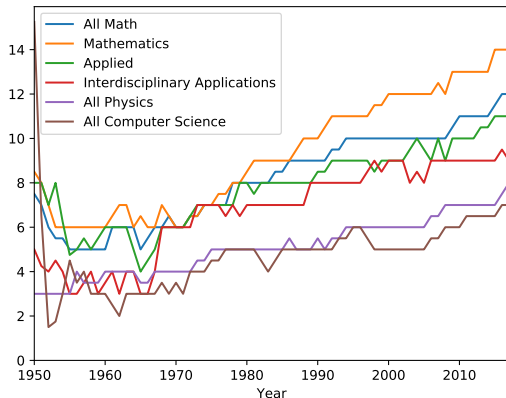


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  - 100 Years?

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  - 20 Years?
  - 50 Years?
  - 100 Years?
- And/Or we need to use different metrics

# Impact on Collections & Acquisitions

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- Acquisitions
  - Age is irrelevant (for research publications)
  - Stay on top of old material which has become relevant

# Questions

*i?*