



UiO • Department of Mathematics University of Oslo

Introduction to BibLaTEX

Martin Helsø

January 30, 2019

The basics

bibliography.bib

```
@article
{
    key1,
    author = {...},
    title = {...},
     . . .
@book
    key2.
    author = \{...\},
    title = {...}.
     . . .
```

filename.tex

```
\documentclass{memoir}
\usepackage[backend = biber]{biblatex}
\addbibresource{bibliography.bib}
\begin{document}
Some text and a citation \cite{key1}.
More text and a new citation \cite{key2}.
\printbibliography
\end{document}
```

The basics

bibliography.bib

```
@article
{
    key1,
    author = {...},
    title = {...},
     . . .
@book
    kev2,
    author = \{...\},
    title = {...}.
     . . .
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```

Compilation

Compile with the backend in between two ordinary compilations:

```
pdflatex filename.tex biber filename pdflatex filename.tex (\times 2)
```

Three possible values for the backend:

```
biber — written for BiblATEX
bibtex — written for the older package BibTEX
bibtex8 — 8 bit reimplementation of bibtex
```

BibLaTEX vs. BibTEX

- BibL^AT_EX supports UTF-8
- BibLATEX has more predefined reference types, e.g., online/www for web pages
- 3 BibLATEX is easier to customize
 - Supports automatic language switching with babel
 - Can create multiple bibliographies
- Databases export to BibT_EX, but the output can also be read by BibL^AT_EX
- 5 Some journals require BibT_EX

Filling the .bib file

Typically filled by copying metadata from a database

■ Change the cite key to something that you remember!

The next three slides show how to extract metadata from three common databases

Check the library subject page for other databases:

```
https://www.ub.uio.no/english/subjects/
informatics-mathematics/mathematics/
```

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ams.org/mathscinet

Home | Preferences | Free Tools | Help | Support Mail | Terms of Use | Blog



MathSciNet
Mathematical Reviews
ISSN 2167-5163

Select alternative format ▼

Publications 1-3-alls for "Aggror=(Hartshorne) AND Title=(Algebraic Geometry)"

MR3362490 Indexed

Hartshorne, Robin(1-CA-NDM)

Basic algebraic geometry. Volumes 1 and 2. Third edition [book review of MR3100243; MR3100288].

SIAM Rev. 56 (2014), no. 4, 716-718. 00A17

Review PDF | Clipboard | Journal | Article | Make Link

Citations

Previous Up Next

From References: 0 From Reviews: 0

References

1. R. Hartshorne, Algebraic Geometry, Springer-Verlag, New York, 1977. MR0463157

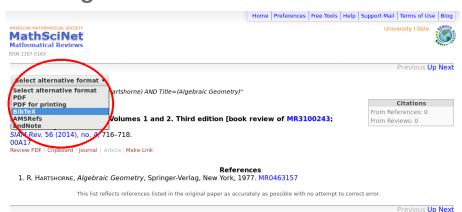
This list reflects references listed in the original paper as accurately as possible with no attempt to correct error.

Previous Up Next

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ams.org/mathscinet



AMS AMERICAN MATHEMATICAL SOCIETY

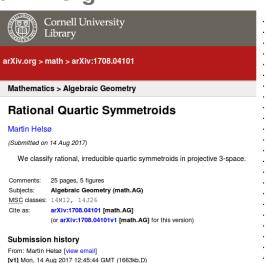
 Copyright 2018, American Mathematical Society Privacy Statement

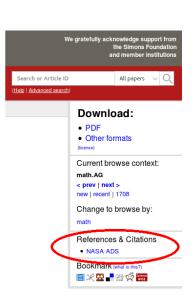
ams.org/mathscinet

Sometimes the exported metadata contains undefined macros

Solution: \usepackage{mathscinet}

arXiv.org





arXiv.org



Metrics



Rational Quartic Symmetroids

Helsø, Martin

We classify rational, irreducible quartic symmetroids in projective 3-space. They are either singular along a line or a smooth conic section, or they have a triple point or a tacnode.

Publication: eprint arXiv:1708.04101

Pub Date: August 2017

Bibcode: 2017arXiv170804101H 2

Keywords: Mathematics - Algebraic Geometry; 14M12; 14J26

E-Print Comments: 25 pages, 5 figures

Feedback/Corrections?

University of Oslo

arXiv.org

Select Export Format

Exporting record(s) 1 to 1 (total: 1)

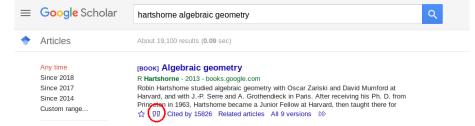
```
BibTeX
@ARTICLE{2017arXiv170804101H,
    author = {{Hels{\o}}, Martin},
    title = "{Rational Quartic Symmetroids}",
   journal = {arXiv e-prints},
  keywords = {Mathematics - Algebraic Geometry, 14M12, 14J26},
     year = 2017,
    month = Aug.
     eid = {arXiv:1708.04101},
    pages = {arXiv:1708.04101},
archivePrefix = {arXiv},
    eprint = {1708.04101},
primaryClass = {math.AG},
    adsurl = {https://ui.adsabs.harvard.edu/\#abs/2017arXiv170804101H},
   adsnote = {Provided by the SAO/NASA Astrophysics Data System}
```

Copy to Clipboard

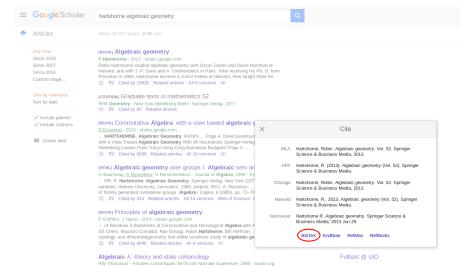
♣ Download to File

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scholar.google.com



scholar.google.com



Citation notes

Input:

```
\cite[postnote]{key}
\cite[prenote][postnote]{key2}
\cite[prenote][]{key3}

Output (depends on style):
[1, postnote]
[prenote 2, postnote]
[prenote 3]
```

Citation notes

Input:

```
\cite[postnote]{key}
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\cite[prenote][]{key3}

Output (depends on style):
```

```
[1, postnote]
[prenote 2, postnote]
[prenote 3]
```

Postnotes are used to specify which part of the source your are referencing:

```
\cite[Theorem~3.2]{key}
\cite[i--vi]{key}
```

Citation notes

Input:

```
\cite[postnote] {key}
\cite[prenote] [postnote] {key2}
\cite[prenote] [] {key3}

Output (depends on style):
[1, postnote]
[prenote 2, postnote]
[prenote 3]
```

Postnotes are used to specify which part of the source your are referencing:

```
\cite[Theorem~3.2]{key} [1, Theorem 3.2]
\cite[i--vi]{key} [1, pp. i-vi]
```

Notes in optional arguments

Say we have defined the environment theorem (using, e.g., thmtools).

Then this works:

```
\begin{theorem}[\cite{key}]
...
\end{theorem}

But this fails:
\begin{theorem}[\cite[Theorem~7]{key}]
...
\end{theorem}
```

Notes in optional arguments

Say we have defined the environment theorem (using, e.g., thmtools).

Then this works:

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...
\end{theorem}
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\begin{theorem}[\cite{key}]
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\end{theorem}

But this works:
\begin{theorem}[{\cite[Theorem~7]{key}}]
...
\end{theorem}
```

Citation commands

\cite bare
\parencite cite in parentheses
\footcite cite in footnote
\authorcite cite only author
\titlecite cite only title
\yearcite cite only year
\urlcite cite only url

Cite multiple sources

Separate keys with comma:

```
\cite{key1, key2, key3}
```

Ensure that the multiple citations are printed in the same order as in the bibliography:

```
\usepackage[sortcites = true]{biblatex}
```

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```
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```

For individual pre- and postnotes:

```
\cites[prenote][postnote]{key1}[prenote][postnote]{key2}
```

sortcites = true does not work for \cites

```
\usepackage[style = alphabetic]{biblatex}

Built-in styles:
    numeric [1]
    alphabetic [Har77]
    authoryear Hartshorne 1977
    authortitle Hartshorne, Algebraic geometry
```

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Nature, Science)

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style affects both appearance in bibliography and in-text citations
unless citestyle is used (make sure they match!)
You can define your own style or import one (e.g., APA, Chicago,
```

All styles are hidden in this list: https://ctan.org/topic/biblatex

Nature, Science)

Sorting schemes

\usepackage[sorting = nty]{biblatex}

- nty Sort by name, title, year.
- nyt Sort by name, year, title.
- nyvt Sort by name, year, volume, title.
- anyt Sort by alphabetic label, name, year, title.
- anyvt Sort by alphabetic label, name, year, volume, title.
 - ynt Sort by year, name, title.
 - ydnt Sort by year (descending), name, title.
- none Do not sort at all. All entries are processed in citation order.

Shorthand

When citing software or a standard reference, you can help the reader recognize the source:

```
... was computed with [1] ... by a result in [Gro67] ... was computed with [Macaulay2] ... by a result in [EGA]
```

Shorthand

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```

Overrule the citation style for individual references by adding a shorthand to its entry in the .bib file:

Omit information from the bibliography:

Issuing url = false does not remove the URL from the online reference type

Omit information from the bibliography:

```
\usepackage[doi = false,
isbn = false,
url = false]{biblatex}
```

Issuing url = false does not remove the URL from the online
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Use initials for given names with giveninits = true

Omit information from the bibliography:

```
\usepackage[doi = false,
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```

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Specify how many author names are printed before they are replaced by "et al." with maxcitenames = n and maxbibnames = m

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Print last names first:

```
\DeclareNameAlias{sortname}{family-given}
\DeclareNameAlias{default}{family-given}
```

Showkeys

\usepackage{showkeys}

Display cite keys (and label keys) in margin Bibliography

- [BI6+12] [1] Grigoriy Blekherman et al. "Algebraic boundaries of Hilbert's SOS cones". In: Compos. Math. 148.6 (2012), pp. 1717–1735. ISSN: 0010-437X. DOI: 10.1112/S0010437X12000437. URL: http://dx.doi.org/10.1112/S0010437X12000437.
- DIII [2] Alex Degtyarev and Ilia Itenberg. "On real determinantal quartics". In: Proceedings of the Gökova Geometry-Topology Conference 2010. Int. Press, Somerville, MA, 2011, pp. 110–128.
- [Hell7] [3] M. Helsø. Rational Quartic Symmetroids. Aug. 2017. arXiv: 1708.04101 [math.AG].
- [Jes16] [4] Charles Minshall Jessop. Quartic surfaces with singular points. University Press, 1916.

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- [Jes16] [4] Charles Minshall Jessop. Quartic surfaces with singular points. University Press, 1916.

Aggressive output, prefer loading

\usepackage[notcite, notref]{showkeys}

Showkeys

\usepackage{showkeys}

Display cite keys (and label keys) in margin Bibliography

- [Bie+12] [1] Grigoriy Blekherman et al. "Algebraic boundaries of Hilbert's SOS cones". In: Compos. Math. 48.6 (2012), pp. 1717-1735. ISSN: 0010-437X. DOI: 10.1112/S0010437X12000437. URL: http://dx.doi.org/10.1112/S0010437X12000437.
 - [DI11] [2] Alex Degtyarev and Ilia Itenberg. "On real determinantal quartics". In: Proceedings of the Gökova Geometry-Topology Conference 2010. Int. Press, Somerville, MA, 2011, pp. 110–128.
- Hell7 [3] M. Helsø, Rational Quartic Symmetroids, Aug. 2017, arXiv: 1708.04101
- [Jee16] [4] Charles Minshall Jessop. Quartic surfaces with singular points. University Press, 1916.

Aggressive output, prefer loading

\usepackage[notcite, notref]{showkeys}

Disable by passing final to document class

Referencing without BibLaTEX

Join the names of different people with an endash:

Navier-Stokes equations, Cauchy-Schwarz inequality

Navier--Stokes equations, Cauchy--Schwarz inequality

Referencing without BibLaTEX

Join the names of different people with an endash:

Navier-Stokes equations, Cauchy-Schwarz inequality

Navier--Stokes equations, Cauchy--Schwarz inequality

This distinguishes multiple people from people with hyphenated names:

The Birch–Swinnerton-Dyer conjecture was formulated by two people, Birch and Swinnerton-Dyer

Further reading (sorted by length)

BibLaTEX cheat sheet

http://mirror.hmc.edu/ctan/info/biblatex-cheatsheet/ biblatex-cheatsheet.pdf

Knut Hegna: BibLaTEX — course notes

http://www.ub.uio.no/fag/informatikk-matematikk/
informatikk/kursmateriell/biblatex/biblatexbooklet.pdf

Dag Langmyhr & Knut Hegna: Local guide to BibLaT_EX

http://dag.at.ifi.uio.no/latex-links/biblatex-guide.pdf

BibLaTEX manual

http://mirrors.ctan.org/macros/latex/contrib/biblatex/
doc/biblatex.pdf

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