

Cassiopeia White Paper - Writing non-technical documents

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Abstract

This document is the first in a series of white papers introducing the scientific word-processing system Cassiopeia. The aim of this series is to get new users started as quickly as possible. A more detailed discussion of the briefly presented features can always be found in the online documentation.

This first white papers explains how to create and fetch documents, how to establish a document structure and how to insert images and create links.

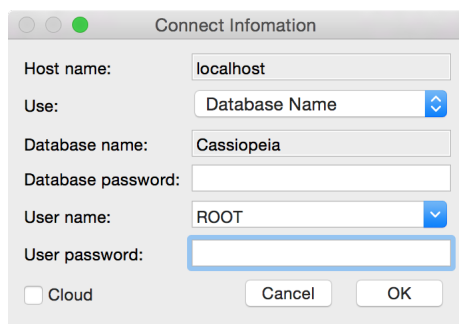
Advanced features like the built-in equation editor, the plotting engine and the symbolic algebra system are explained in subsequent papers.

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1 Logging in

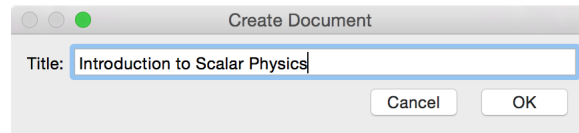
The first step after starting Cassiopeia.app is to choose *Database - Log On* to establish a connection to a database. The *Connect Information* panel allows to either connect to the cloud or a local database on your Mac which is setup automatically as part of the installation procedure (Cloud control in the lower left not checked).



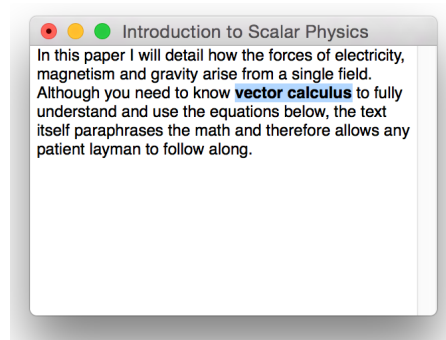
Document data is stored on your local hard drive in the file `/Library/FrontBase/Databases/Cassiopeia.fb` if the local database is used.

2 Creating documents

After logging in a new document is created by pressing Command-N or choosing *Database - Create Document* from the menu. Specify a title and click OK.



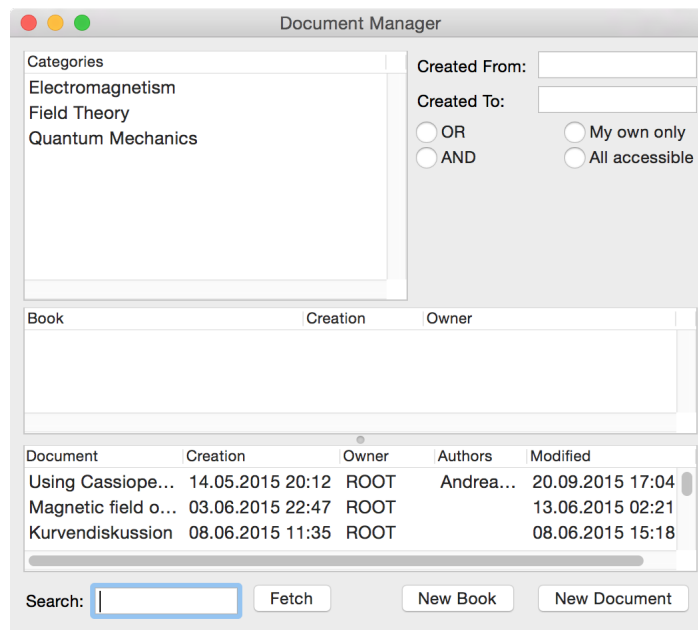
Once in the document just start typing as in any other word-processor. Ranges of text can be emphasized by selecting the text to be emphasized and then pressing Command-Shift-E.



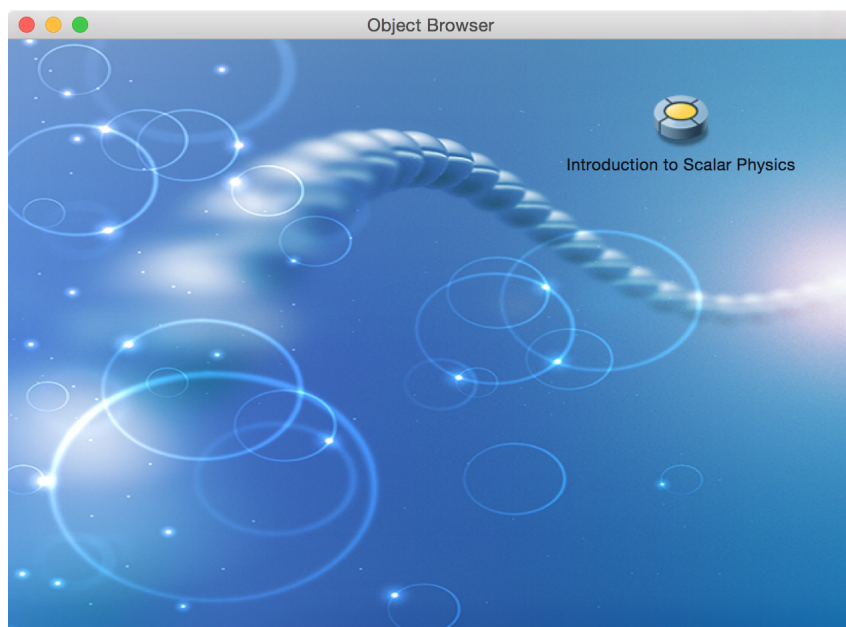
The emphasize property as any other text property can be removed again by positioning the cursor on it and pressing Command-r. Press Command-s to save changes to the database.

3 Retrieving documents

Documents stored in the database can be retrieved by pressing Command-O to open the Document Manager and then clicking on the *Fetch* button. This fetches all documents and books stored in the database.

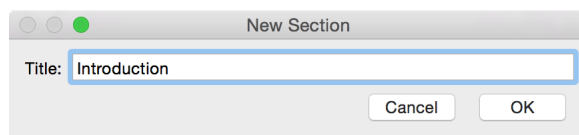


A document is opened by double-clicking on the entry in the tableview. You can also Ctrl-Drag a document onto the Object Browser window to create a bookmark. This gives you quick access to frequently used documents and books.

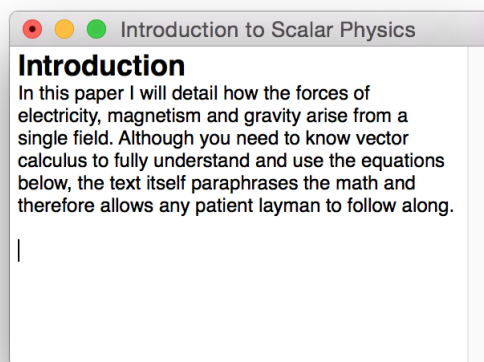


4 Sections and Subsections

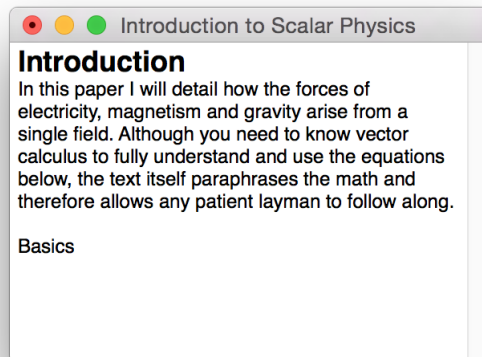
Publications usually have an inner structure of sections and subsections. You can create a section by choosing *SDM - Create Section* from the menu or simply hitting Command-Shift-S. A panel appears asking for a title for the section.



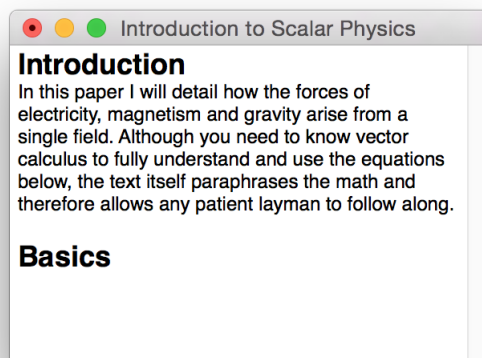
Enter a title and click on OK. This inserts a headline at the current insertion location in the document.



Alternatively first enter the headline as normal text



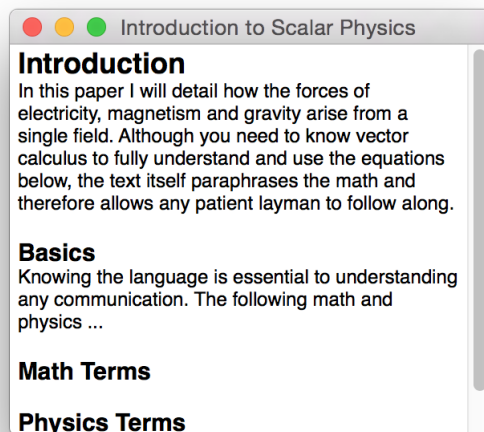
place the cursor on the line you want to make a section title and press Command-Shift-S.



A section title can be made a subsection by clicking on it and pressing Command-Shift-D for Down. It can be raised up again one level by pressing Command-Shift-U for Up. This allows to easily create and modify the outline of a document.

The section title attribute like any other attribute can be removed again by clicking on the title and then pressing Command-r (for remove) which converts the section title back to normal text.

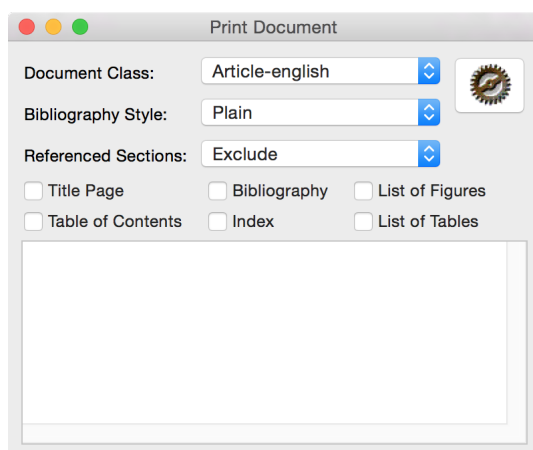
After creating a couple of section titles your document might look as follows:



5 Generating LaTeX

Cassiopeia automatically generates and compiles LaTeX code when it comes to printing and thus produces results in book printing quality. It does not require the user to know LaTeX or any other typesetting language. Instead easy to remember key strokes are used to efficiently create document content in a WYSIWYG environment.

Open any Cassiopeia document or book and press Command-p to open the print document panel.



A bunch of self-explanatory controls are offered to customize the LaTeX gen-

eration. Choose the desired options and click on the brown wheel in the top right corner to start the LaTeX generation process. A temporary directory is created, LaTeX code for the document generated and compiled using a customizable script (see *GenerateLaTeXScript* entry on the Environment pane of the preferences panel). The resulting PDF is opened using your default PDF viewer (probably Preview.app).

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1 Introduction

In this paper I will detail how the forces of electricity, magnetism and gravity arise from a single field. Although you need to know vector calculus to fully understand and use the equations below, the text itself paraphrases the math and therefore allows any patient layman to follow along.

1.1 Basics

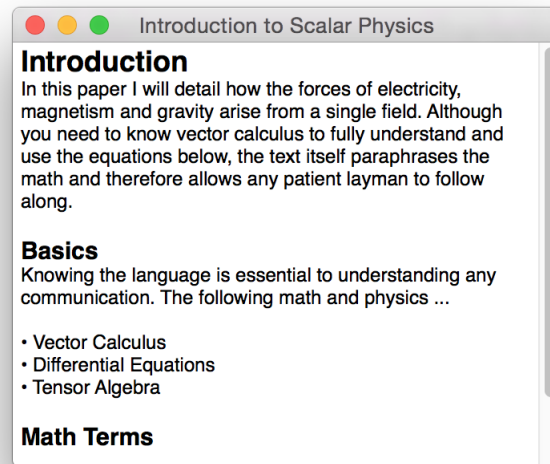
Knowing the language is essential to understanding any communication. The following math and physics ...

1.2 Math Terms

1.3 Physics Terms

6 Enumerations

Unordered lists are simply created by prefixing lines with a centered dot followed by a space and then some text.



Cassiopeia automatically generates the corresponding LaTeX code for an unordered list if it detects lines starting with these two characters.

1.1 Basics

Knowing the language is essential to understanding any communication. The following math and physics ...

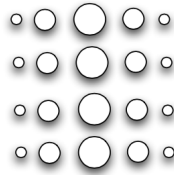
- Vector Calculus
- Differential Equations
- Tensor Algebra

1.2 Math Terms

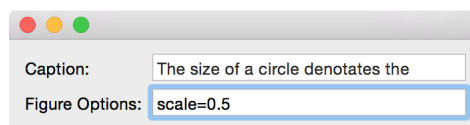
1.3 Physics Terms

7 Inserting Images

Images (TIFF, PNG,...) can simply be dragged from Finder.app or a web-browser into a Cassiopeia document. The images are automatically centered.



A Command-Shift-Click on an image opens the figure inspector that allows to specify an optional caption and LaTeX figure options.

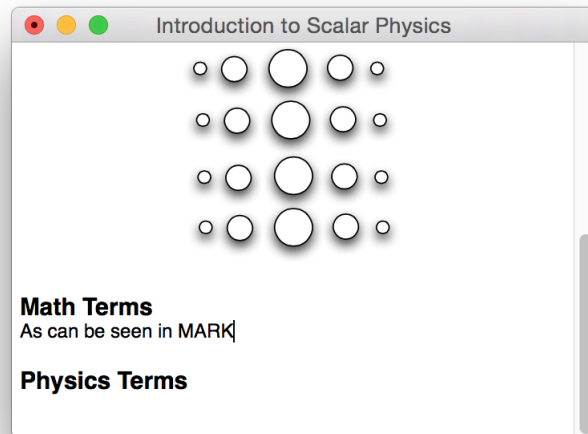


8 Links

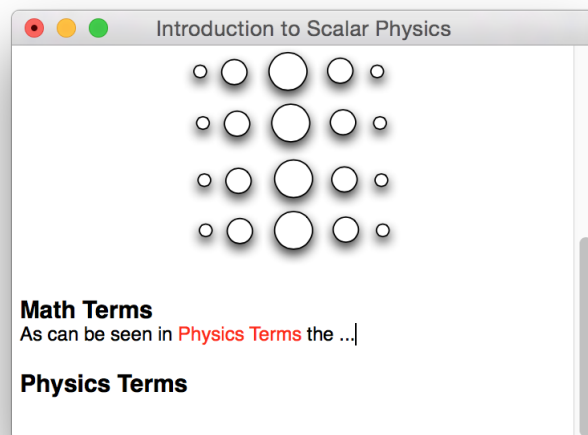
Cassiopeia makes use of a relational database to store sections, books, bibliography entries and all kinds of text objects. This allows efficient management of tons of documents, fulltext search and cross-referencing from any to any object. It also allows to create links that can reference sections, equations, images and bibliography entries.

8.1 Section Links

Open an existing document or create a new one and type a sentence like: "As can be seen in " Then press Command-Shift-M to insert a link anchor.



Do not type MARK. The word MARK is inserted by Cassiopeia when you press Command-Shift-M and assigned the link source attribute. Now click into any section (potentially in a different document) you want to reference and press Command-Shift-L to complete the link creation. The MARK anchor is replaced with the title of the referenced section.



Generate LaTeX (Command-p) to see which effect this has on the resulting

PDF.

1.1 Basics

Knowing the language is essential to understanding any communication. The following math and physics ...

- Vector Calculus
- Differential Equations
- Tensor Algebra

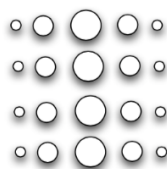


Figure 1: The size of a circle denotes the strength of a field at that point

1.2 Math Terms

As can be seen in **1.3 Physics Terms** the ...

1.3 Physics Terms

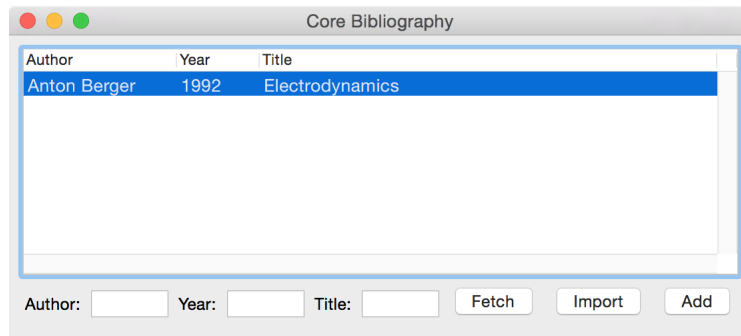
Double-clicking on a link (highlighted in red) in a Cassiopeia document jumps to the target object (section, bibliography entry, equation,...). This might include automatically opening the document hosting the target object.

8.2 Image Links

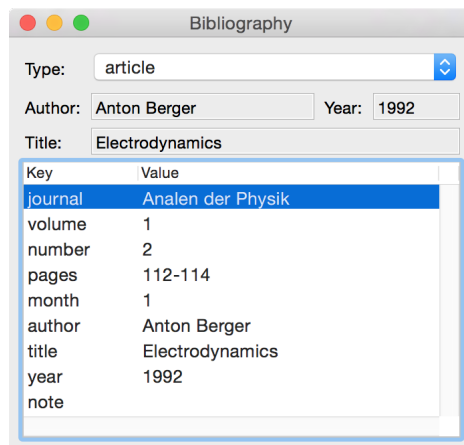
Links can also reference images. Just press Command-Shift-M to create the anchor for the link at the desired location in the document - this will insert MARK in the document - then click on the image you want to create a link to and press Command-Shift-L to complete the link creation.

8.3 Bibliography and citations

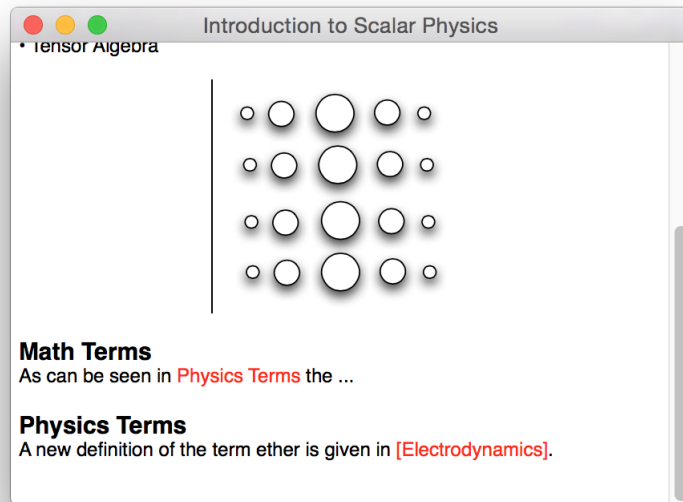
Choose Form - Core Bibliography to open the bibliography manager and click on *Fetch* to retrieve all already stored bibliography entries.



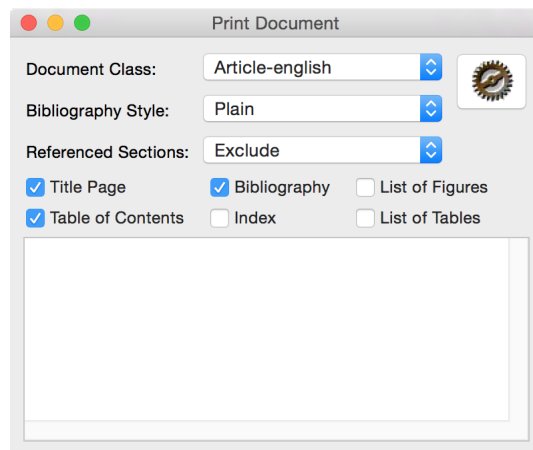
You might want to create a new entry by clicking on Add and filling out the fields in the bibliography viewer if the record you want to cite is not yet existing.



Once the bibliography entry you want to cite is located or created, in your document press Command-Shift-M to create the link anchor, then click into the form Form - Core Bibliography, select the desired entry and press Command-Shift-L to complete the link creation.



When generating LaTeX for your document (Command-p) now also check the Bibliography option



and click on the brown wheel. The bibliography is automatically generated and appended to you document in the resulting PDF.

1.3 Physics Terms

A new definition of the term ether is given in [Berger(1992)].

References

- [Berger(1992)] Anton Berger.
Electrodynamics.
Analen der Physik, 1(2):112–114, 1 1992.