

This document describes a couple of additional environments and (mostly declarative) commands in the updated L^AT_EX class `issue.cls` for this journal. The purpose of these is that one can manually typeset a *table of abstracts*.

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How to typeset a table of abstracts for *Laser Physics Letters* using the `theabstracts` environment

1. Overview

The L^AT_EX class for the *Laser Physics Letters* journal (LPL) `issue.cls` now contains an additional environment `theabstracts`. It is used to manually typeset an expanded table of contents. This table consists of a sequence of entries neatly encapsulated in another environment called `toaentry`. These entries are grouped by scope which is represented by the `\scopeline` command.

Please note that all these elements exist and therefore can be used only inside a `theabstracts` environment. Usage outside will raise some L^AT_EX error complaining about undefined macros.

2. Details

2.1. Scope line

Command: `\scopeline{}`

The scope line is a main title that denotes the scope of the following entries. If the page breaks amidst some scope then the scope line has to be repeated at the next page start.

2.2. The elements of an entry

The table of abstracts (ToA) consists mainly of a list of entries being encapsulated between `\begin{toaentry}` and `\end{toaentry}` commands. Each `toaentry` environment contains the following L^AT_EX declarations:

`\title` The title of the corresponding article.
`\author` Author or list of authors of the article.

`\pagerange` First and last page number of the article.

`\abstract` The article's abstract text.

`\titlefigure` The file name (without extension) of the figure that appears side by side with the article's abstract.

Some of these commands have equally named counterparts used in the title pages of the corresponding articles; if so, they also have the same meaning. If not mentioned otherwise below the commands take exactly one mandatory argument.

All these informations are to be given with the exception of `\titlefigure` which is optional and can be commented (in which case the optional argument just does not matter) or just left empty. If mandatory elements are omitted a warning will be raised and the respective element is marked in red colour in the output. The elements may occur in any sequence; if any element is given more than once, always the last value will be set.

In the following, the elements of a `toaentry` environment are discussed a bit more deeply.

2.2.1. Title

Command: `\title{}`

Here, the title of the original article is to be entered. If the resulting output is longer than one line then please insert `\newline` or `\\` directives at good places in the string. Good places are, e. g., in front of "and", "or", "the", at the start of subsentences and so on. The title of this *instr* demonstrates that.

2.2.2. Author

Command: `\author{}`

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This command takes the author's name as argument. If there is more than one author, then all the names are to be listed, separated by commas and the word 'and' in front of the last one. If there are exactly two authors, the 'and' between them is not preceded by a comma. If there are lots of authors, this line, too, might run over more than one line; then one should use `\\` here also. See Sect. 2.2.1 for details.

2.2.3. Page range

Command: `\pagerange{ }{ }`

Here, the first and the last page number of the article referenced is to be given.

2.2.4. Title figure

Command: `\titlefigure[]{ }`

This command takes up to two arguments, one mandatory and one optional. The mandatory (last) argument is the figure name (without extension) formatting parameters. The optional (first) one is a list of key-value pairs such as `width=\linewidth`; see the documentation of the command `\graphicsinclude` from the package `graphicx`; in fact, exactly this package and command are used internally.

Setting the figure width to `\linewidth` (as shown) will typeset it as wide as its surrounding box, or, in other words, with maximal figure width. One can give any decimal fraction of `\linewidth` to get a smaller figure, e.g., `0.5\linewidth`; one also can give any valid \LaTeX length for that.

The resulting figure should match the abstract text in height, if possible. To achieve this one could also use some `height=X` statement in the optional argument where one would insert the height of the abstract paragraph for the "X". That height would be measured from the result of a previous \LaTeX run. Please note that this practice is quite essential to achieve good looking results and well filled pages.

If a particular ToA entry does not feature a figure at all, just omit `\titlefigureline` or leave the `figurename` empty; thus the abstract text will automatically run over the full text width.

2.2.5. Abstract

Command: `\abstract[]{ }`

Here, the abstract text from the article is to be given. If there is a figure in the entry it will be typeset side by side with it in a box of about half text width; otherwise, it will have full text width.

The command takes one optional argument that is inserted just before the text. Thus one could change some text parameter locally, e.g. size (by inserting `\large` or `\small`).

2.3. Finishing the whole thing

Commands: `\pagebreak`, `\newpage`

Every ToA page except the last one has to be terminated manually using `\pagebreak` or `\newpage`. Because of the semi-automatic mechanism of this environment all page breaks have to be inserted manually. One should first typeset the whole `theabstracts` environment without any page breaking commands (or better with all of them commented out) to see where they should occur and insert them as last step of the finishing of the text.

Again: please see to typeset well-filled pages without large amounts of white space at the bottom of the pages (except the last one, of course).

A minimal table of abstracts (a so-called *skeleton*) showing all elements looks like this:

```
\begin{theabstracts}%
  \scopeline{...}
  \begin{toaentry}
    \title{...}
    \author{...}
    \pagerange{...}{...}
    \abstract{...}
    \titlefigure{...}
  \end{toaentry}
% \newpage
\end{theabstracts}
```

(see also the file `LPL-Skeleton.tex`). `\newpage` is commented here because as long as the text is still worked on one will not be able to know where page breaks will be. Anyway, most of the `\newpage` commands in the final text will be commented, so that's the more efficient way.

On page 3 of this Instr another example for a table of abstracts is given. The input text yielding that is given partly below; please note that for simplicity the abstract texts are abbreviated. To get the complete code please read the input text of this text in the file `LPL-toc-instr.tex`.

```
\begin{theabstracts}%
  \label{toa-example1}%
  \scopeline{Layout demonstration}
  \begin{toaentry}
    \titlefigure[width=\linewidth,%
                 height=15mm]{Testbild}
    \abstract{This shows the layout ...}
    \title{Demo entry}
    \pagerange{1}{22}
%    \author{Just me}
  \end{toaentry}
  \begin{toaentry}
    \abstract{Here we have ...}
    \title{Demo entry without a figure}
    \pagerange{42}{ }
    \author{Me again}
  \end{toaentry}
  ...
\end{theabstracts}
```

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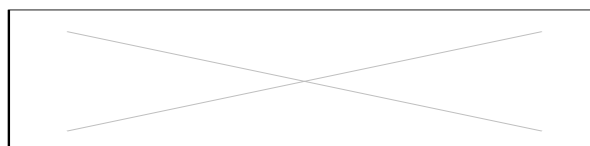


Layout demonstration

Demo entry

This shows the layout of the entries. Note that pictures having bounding boxes that are narrower than the surrounding layout box are set close to the accompanying text.

Note also that this entry has no author and page range line. This is achieved by simply giving no `\author` command.



Me again 42

Demo entry without a figure

Here we have an entry without figure. If no figure name (or an empty one) is given or if the `\titlefigure` command is omitted at all, the text is typeset over the whole page width. Different text sizes or other effects can be achieved using the optional argument of the `\abstract` directive.

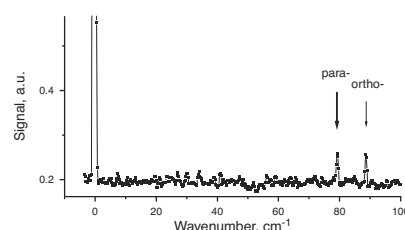
Please note that this entry has no page range but just one page number. This is achieved by letting the second parameter of the `\pagerange` command empty.

Me, also 1 – 999

Another demo entry, decently hacked

Also, it's essential for the resulting visual layout to have picture files with *really* tight bounding boxes, that is, optical and physical edges of the figure should coincide. Here the effect of a far to big bounding box is demonstrated by setting this entry's background color to light grey (by fiddling 'round with some internal code – please don't copy!).

The following is just gibberish to get enough text to demonstrate the effect. This text should show, how a printed text will look like at this place. If you read this text, you will get no information. A blind text like this gives you information about the selected font, how the letters are written and the impression of the look.



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