

# The `figlatex` package\*

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## Abstract

This package allows  $\text{\LaTeX}$  to load XFig and SVG figures (or subfigures) with the `\includegraphics` command.

## 1 Introduction

### 1.1 General

`\includegraphics` This package allows to load XFig figures from  $\text{\LaTeX}$  sources with the `\includegraphics` command from the `graphicx` package:

```
\includegraphics[width=\linewidth]{myfig.fig}
```

This package does not convert by itself XFig figures (see package `texdepends` for that). It only diverts the loading functions so that  $\text{\LaTeX}$  includes the `.pstex_t` or the `.pdftex_t`.

### 1.2 Options

Available options for this package:

<code>debug</code>	<b>debug</b> :	more messages written while compiling
<code>compatibility</code>	<b>compatibility</b> :	old versions of <code>pdflatex</code> do not allow to declare a PDF file with <code>\DeclareGraphicsRule</code> that has not the <code>.pdf</code> extension. In such cases, this package uses the extension <code>.pdf</code> instead of <code>.pdftex</code> for PDF created from XFig figures.
<code>figlatex.cfg</code> <code>\compatibility</code> <code>\debug</code>	When the package is loaded, it tries to read a <code>figlatex.cfg</code> file. This file can contains <code>\compatibility</code> and/or <code>\debug</code> to enable theses options site wide.	

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### 1.3 Subfigures

Sometimes, several figures made with XFig should be similar. It is possible to make only one XFig figure and then create subfigures which contains only a subset of the depths of the original figure.

## 2 Implementation

### 2.1 figlatex

```
1 <*package>
  Options definitions
compatibility
2 \newif\ifFL@compatibility
3 \DeclareOption{compatibility}{%
4   %\PackageWarning{figlatex}{option compatibility}%
5   \global\FL@compatibilitytrue%
6 }
debug
7 \newif\ifFL@debug
8 \DeclareOption{debug}{%
9   \global\FL@debugtrue%
10 }
  We load the config file if it exists. Commands for the config file are local.
11 {
\compatibility
12 \def\compatibility{%
13   \ExecuteOptions{compatibility}%
14 }
\debug
15 \def\debug{%
16   \ExecuteOptions{debug}%
17 }
18 \InputIfFileExists{figlatex.cfg}{%
19   \typeout{*****^^J%
20             * Local config file figlatex.cfg used *^^J%
21             *****}
22 }{%
23   \typeout{Found no configuration file for figlatex}
24 }
25 }
  Run the options
26 \ProcessOptions
```

```

and requires some packages
27 \RequirePackage{ifpdf}
28 \RequirePackage{graphicx}
XFig uses heavily the color package
29 \RequirePackage{color}
30 \RequirePackage{epstopdf}

\FL@dmmessage Write the message only if debug is set
31 \def\FL@dmmessage#1{%
32   \ifFL@debug%
33     \message{#1}%
34   \fi%
35 }

\Gininclude@rawtex .pstex_t or .pdftex_t are loaded with \input
36 \def\Gininclude@rawtex#1{%
37   \FL@dmmessage{<#1>}%
38   \bgroup%
39   \def\@tempa{!}%
40   \ifx\Gin@scaley\@tempa%
41     \let\Gin@scaley\Gin@scalex%
42   \else%
43     \ifx\Gin@scalex\@tempa\let\Gin@scalex\Gin@scaley\fi%
44   \fi%
45   \hbox{%
46     \Gscale@box{\Gin@scalex}[\Gin@scaley]{%
47       \def\Gin@scalex{1}%
48       \let\Gin@scaley\Gin@exclamation% needed for pdflatex
49       \FL@dmmessage{<loading rawtex #1>}%
50       \input{#1}}}%
51   \egroup}

\Gininclude@figtex .fig are loaded with \includegraphics after modifying the name
52 \def\Gininclude@figtex#1{%
53   \message{<#1>}%
54   \bgroup%
55   \xdef\FL@filename{#1}%
56   \filename@parse{\FL@filename}%
57   \xdef\FL@filename{\filename@area\filename@base.\FL@figext}%
58   \FL@dmmessage{<****loading fig \FL@filename>}%
59   \FL@includerawtexgraphics[]{\FL@filename}%
60   \egroup}

\Gread@figtex .fig bounding box is the same as the corresponding .pstex_t or .pdftex_t
61 \newcommand{\Gread@figtex}[1]{%
62   \typeout{Oh, file exists #1}%
63   \Gread@rawtex{#1}%
64 }

```

```

\Ginclude@svgtext .svg are loaded with \includegraphics after modifying the name
65 \def\Ginclude@svgtext#1{%
66   \message{<#1>}%
67   \bgroup%
68   \xdef\FL@filename{#1}%
69   \filename@parse{\FL@filename}%
70   \xdef\FL@filename{\filename@area\filename@base.\FL@svgtext}%
71   \FL@dmmessage{<****loading svg \FL@filename>}%
72   \FL@includerawtexgraphics[]{\FL@filename}%
73   \egroup}

\Gread@svgtext .svg bounding box is the same as the corresponding .pstex_t or .pdftex_t
74 \newcommand{\Gread@svgtext}[1]{%
75   %\typeout{Oh, file exists #1}%
76   \Gread@rawtex{#1}%
77 }

Declare the right things depending whether we build a DVI or a PDF file.
78 \ifpdf
PDF part
79 \def\FL@figext{pdftex_t}%
80 \def\FL@svgext{pdftex_t}%
To read bounding box information:
81 \let\Gread@rawtex\Gread@pdf%
82 \DeclareGraphicsRule{.pdftex}{pdf}{*}{}%
83 \ifFL@compatibility%
84   \PackageWarningNoLine{figlatrix}{Compatibility mode enabled
85     for old LaTeX
86     \MessageBreak Using .pdf extension for pdftex files}%
87   \DeclareGraphicsRule{.pdftex_t}{rawtex}{.pdf}{}%
88   \DeclareGraphicsRule{.fig}{figtex}{.pdf}{}%
89   \DeclareGraphicsRule{.svg}{svgtext}{.pdf}{}%
90 \else%
91   \DeclareGraphicsRule{.pdftex_t}{rawtex}{.pdftex}{}%
92   \DeclareGraphicsRule{.fig}{figtex}{.pdftex}{}%
93   \DeclareGraphicsRule{.svg}{svgtext}{.pdftex}{}%
94 \fi%
95 \else
DVI part
96 \def\FL@figext{pstex_t}%
97 \def\FL@svgext{pstex_t}%
To read bounding box information:
98 \let\Gread@rawtex\Gread@eps%
99 \DeclareGraphicsRule{.pstex}{eps}{*}{}%
100 \DeclareGraphicsRule{.pstex_t}{rawtex}{.pstex}{}%
101 \DeclareGraphicsRule{.fig}{figtex}{.pstex}{}%
102 \DeclareGraphicsRule{.svg}{svgtext}{.pstex}{}%
103 \fi

```

This command is not really necessary here (code could be added in `\Gininclude@figtex`). However, it's very convenient for the `texdepends` package.

```
104 \newcommand{\FL@includerawtexgraphics}[2] [] {%
105   \includegraphics[#1]{#2}%
106 }
```

Addition of the `subfig=name` key for the options of the `\includegraphicx[...]{...}` macro.

```
107 \def\FL@exclamation{!}%
108 \let\FL@subfig@name\FL@exclamation%
109 \define@key{Gin}{subfig}{%
110   \def\FL@subfig@name{#1}%
111 }
112 \def\FL@sepdefault{_}%
```

We should check if the `#1` file exists (`XXX.subfig`) This is not yet done but `texdepends` divert this macro to record the dependency

```
113 \def\FL@subfig@check#1{%
114 }
```

We divert `\Gin@getbase` to modify the file name if the `subfig` key is used.

```
115 \def\FL@Gin@getbase#1{%
116   \ifx\FL@subfig@name\FL@exclamation%
117   \else%
118     \ifthenelse{\equal{#1}{.fig}}{%
119       % If we're including a subfig
120       \IfFileExists{\filename@area\filename@base#1}{%
121         % If the original .fig file exists, just change the name so that
122         % it comprises the full path.
123         \filename@parse{\@filef@und}%
124         % Remove potential trailing space at the end of the extension
125         \def\filename@ext{fig}%
126         % Check if the subfig file exists
127         \FL@subfig@check{\filename@area\filename@base.subfig}%
128       }{%
129         % Else, write a warning (LaTeX will warn as well but it doesn't
130         % hurt)
131         \PackageWarning{figlatex}{No file
132           '\filename@area\filename@base#1'}%
133       }
134       % Add the subfig suffix to the fig name.
135       \edef\filename@base{\filename@base\FL@sepdefault\FL@subfig@name}%
136     }{%
137     }%
138     \ifthenelse{\equal{#1}{.svg}}{%
139       % If we're including a subfig
140       \IfFileExists{\filename@area\filename@base#1}{%
141         % If the original .svg file exists, just change the name so that
142         % it comprises the full path.
143         \filename@parse{\@filef@und}%
144       }{%
145       }%
146     }%
147   }
```

```

144      % Remove potential trailing space at the end of the extension
145      \def\filename@ext{svg}%
146      % Check if the subfig file exists
147      \FL@subfig@check{\filename@area\filename@base.subfig}%
148  }{%
149      % Else, write a warning (LaTeX will warn as well but it doesn't
150      % hurt)
151      \PackageWarning{figlatex}{No file
152        '\filename@area\filename@base#1'}%
153  }
154      % Add the subfig suffix to the svg name.
155      \edef\filename@base{\filename@base\FL@sepdefault\FL@subfig@name}%
156  }{%
157  }%
158  \fi%
159  \FL@orig@Gin@getbase{#1}%
160 }
161 \let\FL@orig@Gin@getbase\Gin@getbase
162 \let\Gin@getbase\FL@Gin@getbase
163
164 %\@namedef{Gin@rule@.fig}#1{%
165
166 %}
167 \</package>

The sample config file figlatex.cfg...
168 \<*config>
169 %\compatibility
170 %\debug
171 \</config>

```

## 2.2 texgraphicx

```

172 \<*compat>

texgraphicx.sty is only a wrapper around figlatex.sty.
173 \PackageWarning{texgraphicx}{'texgraphicx' is now
174 deprecated\MessageBreak%
175 Please, consider switching to 'figlatex'
176 package\MessageBreak}
177 \RequirePackage{figlatex}
178 \ProcessOptions
179 \</compat>

```

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