The eso-pic package*

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1 Introduction

This package makes it easy to add some picture commands to every page at absolute positions.

2 Usage

See also the example LATEX documents (eso-*.tex).

2.1 Basic commands for adding LaTeX stuff to the page background

\AddToShipoutPictureBG

All the picture commands which are parameters of an \AddToShipoutPictureBG command will be added to the internal macro \ESO@HookIBG. This macro is part of a zero-length picture environment with basepoint at the lower left corner of the page (default) or at the upper left corner (package option "texcoord"). The picture environment will be shipped out at every new page.

\AddToShipoutPictureBG*

For compatibility the macros \AddToShipoutPicture and \AddToShipoutPicture* are aliases for \AddToShipoutPictureBG and \AddToShipoutPictureBG*.

\AddToShipoutPictureFG* \ClearShipoutPictureBG Works like \AddToShipoutPictureBG but the picture commands are on the top oft the normal document content.

A call of \ClearShipoutPictureBG clears the contents of \ESO@HookIBG. For compatibility the macro \ClearShipoutPicture is an alias for \ClearShipoutPictureBG.

\ClearShipoutPictureFG \LenToUnit

A call of \ClearShipoutPictureFG clears the contents of \ESO@HookIFG.

Allows a length as parameter to a picture command. Note that this macro is no more necessary when using \usepackage{picture}.

\gridSetup

 $\gridSetup[\langle gridunitname \rangle] \{\langle gridunit \rangle\} \{\langle labelfactor \rangle\} \{\langle griddelta \rangle\} \{\langle gridDelta \rangle\} \{\langle gap \rangle\}.$ For details see the implementation section.

^{*}This document corresponds to eso-pic v2.0i, dated 2020/09/27.

\AtPageUpperLeft \AtPageLowerLeft \AtPageCenter \AtTextUpperLeft \AtTextLowerLeft \AtTextCenter \AtStockUpperLeft \AtStockLowerLeft \AtStockCenter Helper macros for easier positioning on the page.

Package options

Option	Value	Comments
pscoord	empty or true, false	The zero point of the coordinate system
		is the lower left corner of the page (the
		default).
texcoord	empty or true, false	The zero point of the coordinate system
		is the upper left corner of the page.
grid	empty or true, false	A grid is drawing; default: false.
gridBG	empty or true, false	Put the grid in the background; default:
		false.
gridunit	$mm,\ in,\ bp,\ pt$	Distance between gridlines are multiples
		of gridunit. default: mm.
gridcolor	a valid color name	Color of the main gridlines; default:
		black
subgridcolor	a valid color name	Color of the subgridlines; default: black.
subgridstyle	solid or dotted	'dotted' is very slow! default: solid.
colorgrid	empty or true, false	Shortcut for 'grid=true', 'gridcolor=red'
		and 'subgridcolor=green'; default: false.
dvips	empty or true, false	Is also true if the package option dvips is
		used by color or graphics. If true package
		eepic is loaded for better performance of
		dotted lines.

Implementation 3

The main functionality

1 \RequirePackage{atbegshi}

\LenToUnit

\ESO@tempdima

Some auxiliary dimension registers

\ESO@tempdimb

- 3 \newdimen\ESO@tempdima

\ESO@isMEMOIR Support for the memoir class.

- 5 \newcommand\ESO@isMEMOIR[2]{#2}
- $\label{lem:command} \begin{tabular}{l} 6 \end{tabular} $$ \end{tabular} $$$ \end{ta$

\AtPageUpperLeft

- 7 \newcommand\AtPageUpperLeft[1]{%
- 8 \put(0,\LenToUnit{-\ESO@yoffsetI}){#1}%

9 }

\AtPageLowerLeft

- 11 \put(0,\LenToUnit{-\paperheight}){#1}}}

```
\AtPageCenter
                  {\tt 12 \ \ leave Center[1] {\tt AtPageUpperLeft{\tt K}''}}
                      \t (\LenToUnit{.5}\paperwidth{, \LenToUnit{-.5}\paperheight}){\#1}}{\%}
                  14 }
\AtStockLowerLeft
                  15 \newcommand\AtStockLowerLeft{}
                  16 \ESO@isMEMOIR{%
                      \renewcommand\AtStockLowerLeft[1]{%
                  17
                         \begingroup
                  18
                           \ESO@tempdima=-\stockwidth
                  19
                  20
                           \advance\ESO@tempdima\trimedge
                  21
                           \advance\ESO@tempdima\paperwidth
                  22
                          \if@twoside\ifodd\c@page\else
                  23
                             \ESO@tempdima=-\trimedge
                  24
                           \fi\fi
                           \ESO@tempdimb=-\stockheight
                  25
                           \advance\ESO@tempdimb\paperheight
                  26
                           \advance\ESO@tempdimb\trimtop
                  27
                           \AtPageLowerLeft{%
                  28
                             \put(\LenToUnit{\ESO@tempdima},\LenToUnit{\ESO@tempdimb}){#1}%
                  29
                          }%
                  30
                  31
                         \endgroup
                      }
                  32
                  33 }{%
                      \let\AtStockLowerLeft=\AtPageLowerLeft
                  35 }
\AtStockUpperLeft
                  36 \newcommand\AtStockUpperLeft{}
                  37 \ESO@isMEMOIR{%
                      \renewcommand\AtStockUpperLeft[1]{%
                         \AtStockLowerLeft{%
                  40
                           \put(0,\LenToUnit{\stockheight}){#1}%
                  41
                        }%
                  42 }%
                  43 }{%
                      \let\AtStockUpperLeft=\AtPageUpperLeft
   \AtStockCenter
                  46 \newcommand\AtStockCenter{}
                  47 \ESO@isMEMOIR{%
                      \renewcommand\AtStockCenter[1]{%
                  48
                         \AtStockLowerLeft{%
                  49
                           50
                        }%
                  51
                      }%
                  52
                  53 }{%
                      \let\AtStockCenter=\AtPageCenter
                  55 }
```

3

\AtTextUpperLeft

```
\newcommand\AtTextUpperLeft[1]{%
                  57
                         \begingroup
                  58
                           \ifodd\c@page
                  59
                             \ESO@tempdima=\spinemargin
                  60
                           \else
                  61
                             \ESO@tempdima=\paperwidth
                  62
                  63
                             \advance\ESO@tempdima-\textwidth
                             \advance\ESO@tempdima-\spinemargin
                  64
                           \fi
                  65
                           \ESO@tempdimb=-\uppermargin
                  66
                           \AtPageUpperLeft{%
                  67
                             \put(\LenToUnit{\ESO@tempdima},\LenToUnit{\ESO@tempdimb}){#1}%
                  68
                           }%
                  69
                  70
                         \endgroup
                  71
                  72 }{%
                  73
                       \newcommand\AtTextUpperLeft[1]{%
                  74
                         \begingroup
                           \verb|\ESO@tempdima=1in|| relax||
                  75
                           \if@twoside
                  76
                             \ifodd\c@page
                  77
                                \advance\ESO@tempdima\oddsidemargin
                  78
                  79
                  80
                                \advance\ESO@tempdima\evensidemargin
                             \fi
                  81
                           \else
                  82
                             \advance\ESO@tempdima\oddsidemargin
                  83
                           \ESO@tempdimb=-1in\relax
                  85
                           \advance\ESO@tempdimb-\topmargin
                  86
                           \advance\ESO@tempdimb-\headheight
                  87
                           \advance\ESO@tempdimb-\headsep
                  88
                           \AtPageUpperLeft{%
                  89
                             \put(\LenToUnit{\ESO@tempdima},\LenToUnit{\ESO@tempdimb}){#1}%
                  90
                  91
                  92
                         \endgroup
                  93
                  94 }
\AtTextLowerLeft
                  95 \newcommand\AtTextLowerLeft[1]{\AtTextUpperLeft{%
                      \put(0,\LenToUnit{-\textheight}){#1}}}
   \AtTextCenter
                  97 \newcommand\AtTextCenter[1] {\AtTextUpperLeft{%
                       \put(\LenToUnit{.5\textwidth},\LenToUnit{-.5\textheight}){#1}}}
   \ESO@HookIBG
  \ESO@HookIIBG
                  99 \newcommand{\ESO@HookIBG}{}
 \ESO@HookIIIBG 100 \newcommand{\ESO@HookIIBG}{}
   \ESO@HookIFG 101 \newcommand{\ESO@HookIIIBG}{}
  \ESO@HookIIFG 102 \newcommand{\ESO@HookIFG}{}
 \ESO@HookIIIFG 103 \newcommand{\ESO@HookIIFG}{}
```

56 \ESO@isMEMOIR{%

```
104 \newcommand{\ESO@HookIIIFG}{}
                                                                 105 \newcommand{\ESO@HookI}{}
                                                                 106 \newcommand{\ESO@HookII}{}
                                                                 107 \newcommand{\ESO@HookIII}{}
                                                                 108 \let\ESO@HookI=\ESO@HookIBG
                                                                 109 \let\ESO@HookII=\ESO@HookIIBG
                                                                 110 \let\ESO@HookIII=\ESO@HookIIIBG
              \AddToShipoutPictureBG
              \verb|\AddToShipoutPictureFG||_{111} \\ \verb|\newcommand{\AddToShipoutPictureBG}{\%} 
                                                                           \@ifstar{\g@addto@macro\ESO@HookIIBG}{\g@addto@macro\ESO@HookIBG}}
                                                                 113 \newcommand{\AddToShipoutPicture}{}
                                                                 114 \let\AddToShipoutPicture=\AddToShipoutPictureBG
              \AddToShipoutPictureFG
                                                                 115 \newcommand{\AddToShipoutPictureFG}{%
                                                                           \@ifstar{\g@addto@macro\ESO@HookIIFG}{\g@addto@macro\ESO@HookIFG}}
              \ClearShipoutPictureBG
                  \verb|\ClearShipoutPicture|| 117 \verb|\newcommand{\ClearShipoutPictureBG}{\global\let\ESO@HookIBG\@empty}| | ClearShipoutPictureBG} | ClearShipoutPictureBG | ClearShipoutPictureBG
              \ClearShipoutPictureFG 118 \newcommand{\ClearShipoutPicture}{}
                                                                 119 \let\ClearShipoutPicture=\ClearShipoutPictureBG
                                                                 120 \verb| \command{\ClearShipoutPictureFG}{\global\let\ESO@HookIFG\@empty}| }
                             \AtBeginShipout (see package atbegshi)
         \verb|\AtBeginShipoutUpperLeft|_{121} \\ \verb|\ESO@isMEMOIR{%}| \\
{	t ginShipoutUpperLeftForeground} _{122}
                                                                           \AtBeginShipout{%
                                                                 123
                                                                                 \ESO@tempdima=-\trimedge
                                                                                \advance\ESO@tempdima-\paperwidth
                                                                 124
                                                                 125
                                                                                \advance\ESO@tempdima\stockwidth
                                                                 126
                                                                                \if@twoside\ifodd\c@page\else
                                                                                     \advance\ESO@tempdima2\trimedge
                                                                 127
                                                                 128
                                                                                     \advance\ESO@tempdima\paperwidth
                                                                                     \advance\ESO@tempdima-\stockwidth
                                                                 129
                                                                 130
                                                                                 \ESO@tempdimb=\ESO@yoffsetI
                                                                 131
                                                                 132
                                                                                 \advance\ESO@tempdimb-\trimtop
                                                                 133
                                                                                 \nointerlineskip
                                                                                 \AtBeginShipoutUpperLeft{%
                                                                 134
                                                                                     \put(\LenToUnit{\ESO@tempdima},\LenToUnit{\ESO@tempdimb}){%
                                                                 135
                                                                                         \ESO@HookIIIBG\ESO@HookIBG\ESO@HookIIBG
                                                                 136
                                                                                         \global\let\ESO@HookIIBG\@empty
                                                                 137
                                                                                    }%
                                                                 138
                                                                                }%
                                                                 139
                                                                 140
                                                                                 \AtBeginShipoutUpperLeftForeground{%
                                                                                     \put(\LenToUnit{\ESO@tempdima},\LenToUnit{\ESO@tempdimb}){%
                                                                 141
                                                                 142
                                                                                         \ESO@HookIFG\ESO@HookIIFG\ESO@HookIIIFG
                                                                 143
                                                                                          \global\let\ESO@HookIIFG\@empty
                                                                                    }%
                                                                 144
                                                                                }%
                                                                 145
                                                                          }
                                                                 146
                                                                 147 }{%
                                                                            \AtBeginShipout{%
                                                                 148
                                                                 149
                                                                                \nointerlineskip
```

```
\AtBeginShipoutUpperLeft{%
150
         \put(0,\LenToUnit{\ESO@yoffsetI}){%
151
           \ESO@HookIIIBG\ESO@HookIBG\ESO@HookIIBG
152
            \global\let\ESO@HookIIBG\@empty
153
         }%
154
       }%
155
       \AtBeginShipoutUpperLeftForeground{%
156
         \put(0,\LenToUnit{\ESO@yoffsetI}){%
157
           \ESO@HookIFG\ESO@HookIIFG\ESO@HookIIIFG
158
           \global\let\ESO@HookIIFG\@empty
159
         }%
160
       }%
161
     }
162
163 }
```

3.2 The background grid

```
164 \RequirePackage{keyval}
```

```
Initialising some macros
           165 \newif\ifESO@dvips\ESO@dvipsfalse \newif\ifESO@grid\ESO@gridfalse
           166 \newif\ifESO@texcoord\ESO@texcoordfalse \newif\ifESO@gridBG\ESO@gridBGfalse
           167 \newcommand*\ESO@gridunitname{}
           168 \newcommand*\ESO@gridunit{}
           169 \newcommand*\ESO@labelfactor{}
           170 \newcommand*\ESO@griddelta{}\newcommand*\ESO@griddeltaY{}
           171 \newcommand*\ESO@gridDelta{}\newcommand*\ESO@gridDeltaY{}
           172 \newcommand*\ESO@gridcolor{}
           173 \newcommand*\ESO@subgridcolor{}
           174 \newcommand*\ESO@subgridstyle{dotted}% ???
           175 \newcommand*\ESO@gap{}
           176 \newcommand*\ESO@yoffsetI{}\newcommand*\ESO@yoffsetII{}
           177 \newcommand*\ESO@gridlines{\thinlines}
           178 \newcommand*\ESO@subgridlines{\thinlines}
           179 \newcommand*\ESO@hline[1] {\ESO@subgridlines\line(1,0){#1}}
           180 \newcommand*\ESO@vline[1]{\ESO@subgridlines\line(0,1){#1}}
           181 \newcommand*\ESO@Hline[1]{\ESO@gridlines\line(1,0){#1}}
           182 \newcommand*\ESO@Vline[1]{\ESO@gridlines\line(0,1){#1}}
           183 \newcommand\ESO@fcolorbox[3]{\fbox{#3}}
           184 \newcommand\ESO@color[1]{}
           185 \newcommand\ESO@colorbox[2]{%
           186
                 \begingroup
           187
                   \fboxrule=\z@\fbox{#2}%
           188
                 \endgroup
           189 }
\gridSetup
           190 \newcommand\gridSetup[6][]{%
           191
                 \edef\ESO@gridunitname{#1}\edef\ESO@gridunit{#2}
                 \edef\ESO@labelfactor{#3}\edef\ESO@griddelta{#4}
                 \edef\ESO@gridDelta{#5}\edef\ESO@gap{#6}}
            All the key-value options
           194 \define@key{ES0}{texcoord}[true]{\csname ES0@texcoord#1\endcsname}
           195 \define@key{ESO}{pscoord}[true]{\csname @tempswa#1\endcsname
```

```
197 \define@key{ESO}{dvips}[true]{\csname ESO@dvips#1\endcsname}
                      198 \define@key{ESO}{grid}[true]{\csname ESO@grid#1\endcsname
                           \setkeys{ESO}{gridcolor=black,subgridcolor=black}}
                      200 \define@key{ESO}{gridBG}[true]{\csname ESO@gridBG#1\endcsname}
                      201 \define@key{ESO}{colorgrid}[true]{\csname ESO@grid#1\endcsname
                           \setkeys{ESO}{gridcolor=red,subgridcolor=green}}
                      203 \define@key{ESO}{gridcolor}{\def\ESO@gridcolor{#1}}
                      204 \end{ESO} \{subgridcolor\} \{\def\ESO@subgridcolor\{\#1\}\} \}
                      205 \define@key{ESO}{subgridstyle}{\def\ESO@subgridstyle{#1}}%
                      206 \define@key{ESO}{gridunit}{%
                           \def\@tempa{#1}
                      207
                           \def\@tempb{bp}
                      208
                           \ifx\@tempa\@tempb
                      209
                             \gridSetup[\0tempa]{1bp}{1}{10}{50}{2}
                      210
                      211
                           \else
                             \def\@tempb{pt}
                      212
                      213
                             \ifx\@tempa\@tempb
                               \gridSetup[\@tempa]{\p@}{1}{10}{50}{2}
                      214
                      215
                             \else
                               \def\@tempb{in}
                      216
                               \ifx\@tempa\@tempb
                      217
                                 \gridSetup[\@tempa]{.1in}{.1}{2}{10}{.5}
                      218
                      219
                                 \gridSetup[mm]{1mm}{1}{5}{20}{1}
                      220
                               \fi
                      221
                             \fi
                      222
                           \fi
                      223
                      224 }
                      225 \setkeys{ESO}{subgridstyle=solid,pscoord=true,gridunit=mm}
                      226 \providecommand*\@classoptionslist{}
\ProcessOptionsWithKV
                      This macro can process package options using 'key=value' syntax.
                      227 \def\ProcessOptionsWithKV#1{%
                      228
                           \let\@tempc\@empty
                           \@for\CurrentOption:=\@classoptionslist\do{%
                      229
                             \@ifundefined{KV@#1@\CurrentOption}%
                      230
                             {}{\edef\@tempc{\@tempc,\CurrentOption,}}}%
                      231
                           \edef\@tempc{%
                      232
                             233
                      234
                           \@tempc
                           \AtEndOfPackage{\let\@unprocessedoptions\relax}}%
                      236 \ProcessOptionsWithKV{ESO}%
             \ESO@div Divides length #1 by #2 × \ESO@gridunit and adds one. Result is in \@tempcnta.
                      237 \newcommand\ESO@div[2]{%
                           \ESO@tempdima=#1\relax\ESO@tempdimb=\ESO@gridunit\relax
                      238
                           \ESO@tempdimb=#2\ESO@tempdimb\divide\ESO@tempdima by \ESO@tempdimb
                      239
                           \@tempcnta\ESO@tempdima\advance\@tempcnta\@ne}
                      241 \@ifundefined{colorbox}{%
                           \IfFileExists{xcolor.sty}{\RequirePackage{xcolor}}%
```

\if@tempswa\ESO@texcoordfalse\else\ESO@texcoordtrue\fi}

```
244 }{}%
                                         245 \let\ESO@color=\color
                                         246 \renewcommand\ESO@colorbox[2]{%
                                         247
                                                      \begingroup
                                                          \fboxsep=.4ex %
                                         248
                                                          \colorbox{#1}{#2}%
                                         249
                                         250
                                                     \endgroup
                                         251 }
                                         252 \renewcommand\ESO@fcolorbox[3]{\%
                                         253
                                                     \begingroup
                                                          \fboxsep=.5ex %
                                         254
                                                          \fcolorbox{#1}{#2}{#3}%
                                         255
                                                     \endgroup
                                         256
                                         257 }
                                         258 \AtBeginDocument{%
                                                     \ES0@dvipsfalse
                                         259
                                                      \@ifundefined{Gin@driver}{}%
                                         260
                                         261
                                                          \ifx\Gin@driver\@empty\else%
                                         262
                                                               \filename@parse{\Gin@driver}\def\reserved@a{dvips}%
                                         263
                                                               \ifx\filename@base\reserved@a\ESO@dvipstrue\fi
                                         264
                                                          \fi
                                         265
                                                     }%
                                         266
                                                      \ifESO@dvips\def\@tempb{eepic}\else\def\@tempb{epic}\fi
                                         267
                                                      \def\@tempa{dotted}%\def\ESO@gap{\LenToUnit{6\@wholewidth}}%
                                         268
                                                      \ifx\@tempa\ESO@subgridstyle
                                         269
                                                          \IfFileExists{\@tempb.sty}%
                                         270
                                         271
                                                               \RequirePackage{\@tempb}
                                         272
                                                               \renewcommand*\ESO@hline[1]{\ESO@subgridlines\dottedline{\ESO@gap}%
                                         273
                                                                    (0,0)(##1,0)
                                         274
                                                               275
                                                                    (0,0)(0,##1)
                                         276
                                                          }{}
                                         277
                                         278
                                                     \else
                                         279
                                                          \ifx\ESO@gridcolor\ESO@subgridcolor
                                         280
                                                               \renewcommand*\ESO@gridlines{\thicklines}
                                         281
                                                          \fi
                                                     \fi
                                         282
                                         283 }
                                         284 \ifESO@texcoord
                                                      \def\ESO@yoffsetI{\z@}\def\ESO@yoffsetII{-\paperheight}
                                                      \edef\ESO@griddeltaY{-\ESO@griddelta}\edef\ESO@gridDeltaY{-\ESO@gridDelta}
                                         286
                                         287 \else
                                                     \def\ESO@yoffsetI{-\paperheight}\def\ESO@yoffsetII{\z@}
                                                     \label{tangent} $$ \edgh{ESO@gridDelta}_{ESO@gridDelta} = \edgh{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelta}_{ESO@gridDelt
                                         290 \fi
\ES0@gridpicture
                                         291 \newcommand\ESO@gridpicture{%
                                         292
                                                     \begingroup
                                                          \setlength\unitlength{\ESO@gridunit}%
                                         293
                                         294
                                                          \ESO@color{\ESO@subgridcolor}%
```

{\RequirePackage{color}}%

243

```
horizontal subgrid lines —
       \ESO@div{\paperheight}{\ESO@griddelta}%
295
       \multiput(0,0)(0,\ESO@griddeltaY){\@tempcnta}%
296
         {\ESO@hline{\LenToUnit{\paperwidth}}}%
297
— vertical subgrid lines —
       \ESO@div{\paperwidth}{\ESO@griddelta}%
298
       \multiput(0,\LenToUnit{\ESO@yoffsetII})(\ESO@griddelta,0){\@tempcnta}%
299
         {\ESO@vline{\LenToUnit{\paperheight}}}%
300
       \ESO@color{\ESO@gridcolor}%
301
   horizontal grid lines -
       \ESO@div{\paperheight}{\ESO@gridDelta}%
302
       \multiput(0,0)(0,\ESO@gridDeltaY){\@tempcnta}%
303
         {\ESO@Hline{\LenToUnit{\paperwidth}}}%
304
— vertical grid lines —
       \ESO@div{\paperwidth}{\ESO@gridDelta}%
305
       \multiput(0,\LenToUnit{\ESO@yoffsetII})(\ESO@gridDelta,0){\@tempcnta}%
306
         {\ESO@Vline{\LenToUnit{\paperheight}}}%
307
   horizontal numbers
       \fontsize{10}{12}\normalfont%
308
       \ESO@div{\paperwidth}{\ESO@gridDelta}%
309
       \multiput(0,\ESO@gridDeltaY)(\ESO@gridDelta,0){\@tempcnta}{%
310
         \@tempcntb=\@tempcnta\advance\@tempcntb-\@multicnt
311
         \ifnum\@tempcntb>1\relax
312
           \multiply\@tempcntb by \ESO@gridDelta\relax
313
           \ESO@tempdima=\@tempcntb sp\ESO@tempdima=\ESO@labelfactor\ESO@tempdima
314
315
           \@tempcntb=\ESO@tempdima%
316
           \mbox(0,0)[c]{\ESO@colorbox{white}{\the\@tempcntb}}%
317
         fi}%
— vertical numbers -
       318
       \ESO@div{\paperheight}{\ESO@gridDelta}%
319
       \multiput(\ESO@gridDelta,0)(0,\ESO@gridDeltaY){\@tempcnta}{%
320
         \@tempcntb=\@tempcnta\advance\@tempcntb-\@multicnt%
321
322
         \ifnum\@tempcntb>\@tempa\relax
           \multiply\@tempcntb by \ESO@gridDelta\relax%
323
           \ESO@tempdima=\@tempcntb sp\ESO@tempdima=\ESO@labelfactor\ESO@tempdima
324
           \@tempcntb=\ESO@tempdima
325
           \mbox(0,0)[c]{\ESO@colorbox{white}{\the\@tempcntb}}%
326
         \fi
327
       }%
328
   the unit label —
       \ifx\ESO@gridunitname\@empty\else
329
         \thicklines\fboxrule=\@wholewidth
330
         \put(\ESO@gridDelta,\ESO@gridDeltaY){\makebox(0,0)[c]{%
331
332
           \ESO@fcolorbox{\ESO@gridcolor}{white}{%
333
             \textbf{\ESO@gridunitname}}}}%
334
       \fi
335
       \normalcolor%
336
     \endgroup
337 }
```

Add the grid to the shipout picture ($\ESO@HookIIIFG$ or $\ESO@HookIIIBG$) is independed from the user commands \AddToShipoutPictureBG and $\AddToShipoutPictureBG*$).

```
338 \ifESO@grid
339 \ifESO@gridBG
340 \g@addto@macro\ESO@HookIIIBG{\ESO@gridpicture}%
341 \else
342 \g@addto@macro\ESO@HookIIIFG{\ESO@gridpicture}%
343 \fi
344 \fi
```

Change History

v0.4	added 9
General: Initial version 1	v1.1b
v0.5	General: New command
General: Some bug corrections 1	\AtPageLowerLeft 1
v0.6	New package options "texcoord"
General: Some corrections for	and "pscoord" 1
compatibility with the html	v1.1c
package suggested by Ross Moore and a licence note 1	General: Remove the
v0.7	disadvantageous check of
General: New command	'pdfTeX'. Now using with
\AddToShipoutPicture* 1	XeLaTeX should be possible 7
v1.0	v2.0a
General: New commands	\AtStockCenter: New 3
\LenToUnit,	\AtStockLowerLeft: New 3
\AtPageUpperLeft,	\AtStockUpperLeft: New 3
\AtPageCenter,	\AtTextUpperLeft: Works now for
\AtTextUpperLeft, and	class memoir
\AtTextCenter 1	General: Better test of color/xcolor 7
v1.0a	v2.0b
\ClearShipoutPictureFG:	\AddToShipoutPictureFG: New
Changed \let to \global\let	command
(suggested by Alberto Lusiani). 5	\AddToShipoutPictureFG 5
v1.0c	v2.0c
General: New command	\AtBeginShipoutUpperLeftForeground
\AtTextLowerLeft and	bugfix for memoir class
corrections to	(reported by YI Hoze) 5
$\AtTextUpperLeft.$ 1	v2.0d
v1.0d	General: grid should be in
\LenToUnit: Using	foreground
\providecommand instead of	Improved color commands 7
\newcommand for \LenToUnit 2	v2.0e
v1.1	\AtTextUpperLeft: Wrong
General: New commands and	horizontal position in
package options for background	one-column mode 3
grids	v2.0f
v1.1a	\LenToUnit: Changed definition
\ESO@gridpicture: Font setting	for better compatibility with

package curve2e suggested by	New macro \ESO@HookIIIFG for	
Claudio Beccari 2	foreground grid	4
v2.0g General: Foreground/background	New option 'gridBG'	6
grid	v2.0h	
New \ifESO@gridBG for	General: \@classoptionslist must	
foreground/background grid 6	not be $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	7

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