

The libgreek package

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Abstract

The `libgreek` package¹ is for L^AT_EX users who wish to use the Libertine or Biolinum font for the Greek letters in math mode. It is not necessary to load the `libertine` package, but of course the Linux-Libertine/Biolinum fonts (designed by PHILIPP H. POLL) with their accompanying L^AT_EX support files by MICHAEL NIEDERMAIR must have been installed.²

1 Package options

The `libertine` and `biolinum` options declare which typeface family to use; by default it will be `libertine`. All further options are of the `key=value` type.

`scale=factor` will scale the font by the given factor, relative to nominal size (when the Libertine/Biolinum fonts are used elsewhere in the document, they will also be scaled by this factor). Note that the similar option of the `libertine` package is called `scaled` and has precisely the same effect. Example: `scale=1.2` will scale by 20%.

`style={ISO|French|TeX}` specifies the shape of the Greek letters. `ISO` means italic for lowercase and uppercase, `French` means upright for lowercase and uppercase, `TeX` means italic for lowercase and upright for uppercase. This option will override any `greek` or `Greek` option. The package defaults to `style=TeX`.

`greek=value` specifies the shape (`n`, `it`, or `sl`, or any macro expanding to one of these values) for both lowercase and uppercase Greek letters. So `greek=it` is like `style=ISO`, and `greek=n` like `style=French`.

`Greek=value` specifies the shape (`n`, `it`, or `sl`) for the uppercase Greek letters. To have lowercase upright and uppercase italic, use `greek=n,Greek=it`.

`series=value` tells which series to use. Admissible values³ are `m`, `b`, `bx` (`bx=b`) for Libertine and `m`, `b`, `bx` (`bx=b`), `o`, `s` for Biolinum; any macro expanding to one of these values is admissible as value parameter. Default is to use `\seriesdefault` at the time of loading the package.

`boldseries=value` tells which series to use in bold math (corresponding to the L^AT_EX commands `\boldmath` or `\mathversion{bold}`). Default is `\bfdefault` at the time of loading the package.⁴

¹This document describes `libgreek` version 1.0 (2011/03/14).

²package <http://mirrors.ctan.org/help/Catalogue/entries/libertine.html>

³seen from the files `ufx103.fd` and `ufxb03.fd` of the `libertine` package

⁴at the time of writing, it seems that the bold series for Biolinum contains glyphs for the lowercase Greek letters which are in fact not bold.

2 Implementation

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{libgreek}
3   [2011/03/14 1.0 Libertine/Biolinum Greek in math mode (jfb)]
4 \RequirePackage{keyval}
5 \def\libgreek@font{fxl03}
6 \def\libgreek@shape{it}
7 \def\libgreek@uppershape{n}
8 \newif\iflibgreek@twoshapes\libgreek@twoshapestrue
9 \edef\libgreek@series{\seriesdefault}
10 \edef\libgreek@boldseries{\bfdefault}
11 \newif\iflibgreek@sty
12 %%
13 \define@key{libgreek}{scale}[1]{\def\fxl@scale{#1}}
14 \define@key{libgreek}{libertine}[true]{}
15 \define@key{libgreek}{biolinum}[true]{\def\libgreek@font{fxb03}}
16 \define@key{libgreek}{style}{\libgreek@stytrue\edef\libgreek@style{#1}}
17 \define@key{libgreek}{Greek}{\def\libgreek@Greekshape{#1}}
18 \define@key{libgreek}{greek}{\edef\libgreek@shape{#1}
19   \edef\libgreek@uppershape{#1}}
20 \define@key{libgreek}{series}{\edef\libgreek@series{#1}}
21 \define@key{libgreek}{boldseries}{\edef\libgreek@boldseries{#1}}
22 %%
23 \def\ProcessOptionsWithKV#1{%
24   \let\@tempc\relax
25   \let\libgreek@tempa\@empty
26   \@for\CurrentOption:=\@classoptionslist\do{%
27     \ifundefined{KV@#1\CurrentOption}%
28       {}%
29     {%
30       \edef\libgreek@tempa{\libgreek@tempa,\CurrentOption,}%
31       \@expandtwoargs\@removeelement\CurrentOption
32         \@unusedoptionlist\@unusedoptionlist
33     }%
34   }%
35   \edef\libgreek@tempa{%
36     \noexpand\setkeys{#1}{%
37       \libgreek@tempa\@optionlist{\@currname.\@currentx}%
38     }%
39   }%
40   \libgreek@tempa
41   \let\CurrentOption\@empty
42 }
43 \ProcessOptionsWithKV{libgreek}
44 \AtEndOfPackage{%
45   \let\@unprocessedoptions\relax
46 }
47 %%
48 \def\lbg@ISO{ISO}
49 \def\lbg@French{French}
50 \iflibgreek@sty
51   \ifx\libgreek@style\lbg@ISO
```

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52     \def\libgreek@shape{it}
53     \libgreek@twoshapesfalse
54 \else
55 \ifx\libgreek@style\lbg@French
56     \def\libgreek@shape{n}
57     \libgreek@twoshapesfalse
58 \else
59     \def\libgreek@shape{it}
60     \def\libgreek@uppershape{n}
61 \fi\fi
62 \else
63 \ifx\libgreek@Greekshape\undefined
64     \else\edef\libgreek@uppershape{\libgreek@Greekshape}\fi
65 \ifx\libgreek@shape\libgreek@uppershape\libgreek@twoshapesfalse\fi
66 \fi
67 %%
68 \DeclareSymbolFont{libgreekfont}{U}{\libgreek@font}
69                                     {\libgreek@series}
70                                     {\libgreek@shape}
71 \SetSymbolFont{libgreekfont}{bold}{U}{\libgreek@font}
72                                     {\libgreek@boldseries}
73                                     {\libgreek@shape}
74 \def\libgreek@Greek{libgreekfont}
75 %%
76 \iflibgreek@twoshapes
77 \DeclareSymbolFont{libGreekgfont}{U}{\libgreek@font}
78                                     {\libgreek@series}
79                                     {\libgreek@uppershape}
80 \SetSymbolFont{libGreekgfont}{bold}{U}{\libgreek@font}
81                                     {\libgreek@boldseries}
82                                     {\libgreek@uppershape}
83 \def\libgreek@Greek{libGreekgfont}
84 \fi
85 %%
86 \DeclareMathSymbol{\Alphatonos}{\mathord}{\libgreek@Greek}{134}
87 \DeclareMathSymbol{\Anoteleia}{\mathord}{libgreekfont}{135}
88 \DeclareMathSymbol{\Epsilontonos}{\mathord}{\libgreek@Greek}{136}
89 \DeclareMathSymbol{\Etatonos}{\mathord}{\libgreek@Greek}{137}
90 \DeclareMathSymbol{\Iotatonos}{\mathord}{\libgreek@Greek}{138}
91 \DeclareMathSymbol{\Omicrontonos}{\mathord}{\libgreek@Greek}{140}
92 \DeclareMathSymbol{\Upsilontonos}{\mathord}{\libgreek@Greek}{142}
93 \DeclareMathSymbol{\Omegatonos}{\mathord}{\libgreek@Greek}{143}
94 \DeclareMathSymbol{\iotadiesistonos}{\mathord}{libgreekfont}{144}
95 \DeclareMathSymbol{\Alpha}{\mathord}{\libgreek@Greek}{145}
96 \DeclareMathSymbol{\Beta}{\mathord}{\libgreek@Greek}{146}
97 \DeclareMathSymbol{\Gamma}{\mathord}{\libgreek@Greek}{147}
98 \DeclareMathSymbol{\Delta}{\mathord}{\libgreek@Greek}{148}
99 \DeclareMathSymbol{\Epsilon}{\mathord}{\libgreek@Greek}{149}
100 \DeclareMathSymbol{\Zeta}{\mathord}{\libgreek@Greek}{150}
101 \DeclareMathSymbol{\Eta}{\mathord}{\libgreek@Greek}{151}
102 \DeclareMathSymbol{\Theta}{\mathord}{\libgreek@Greek}{152}
103 \DeclareMathSymbol{\Iota}{\mathord}{\libgreek@Greek}{153}
104 \DeclareMathSymbol{\Kappa}{\mathord}{\libgreek@Greek}{154}

```

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105 \DeclareMathSymbol{\Lambda}{\mathord}{\libgreek@Greek}{155}
106 \DeclareMathSymbol{\Mu}{\mathord}{\libgreek@Greek}{156}
107 \DeclareMathSymbol{\Nu}{\mathord}{\libgreek@Greek}{157}
108 \DeclareMathSymbol{\Xi}{\mathord}{\libgreek@Greek}{158}
109 \DeclareMathSymbol{\Omicron}{\mathord}{\libgreek@Greek}{159}
110 \DeclareMathSymbol{\Pi}{\mathord}{\libgreek@Greek}{160}
111 \DeclareMathSymbol{\Rho}{\mathord}{\libgreek@Greek}{161}
112 \DeclareMathSymbol{\Sigma}{\mathord}{\libgreek@Greek}{163}
113 \DeclareMathSymbol{\Tau}{\mathord}{\libgreek@Greek}{164}
114 \DeclareMathSymbol{\Upsilon}{\mathord}{\libgreek@Greek}{165}
115 \DeclareMathSymbol{\Phi}{\mathord}{\libgreek@Greek}{166}
116 \DeclareMathSymbol{\Chi}{\mathord}{\libgreek@Greek}{167}
117 \DeclareMathSymbol{\Psi}{\mathord}{\libgreek@Greek}{168}
118 \DeclareMathSymbol{\Omega}{\mathord}{\libgreek@Greek}{169}
119 \DeclareMathSymbol{\Iotadieresis}{\mathord}{\libgreek@Greek}{170}
120 \DeclareMathSymbol{\Upsilondieresis}{\mathord}{\libgreek@Greek}{171}
121 \DeclareMathSymbol{\alphanos}{\mathord}{\libgreekfont}{172}
122 \DeclareMathSymbol{\epsilontonos}{\mathord}{\libgreekfont}{173}
123 \DeclareMathSymbol{\etatonos}{\mathord}{\libgreekfont}{174}
124 \DeclareMathSymbol{\iotatonos}{\mathord}{\libgreekfont}{175}
125 \DeclareMathSymbol{\upsilondieresis}{\mathord}{\libgreekfont}{176}
126 \DeclareMathSymbol{\alpha}{\mathord}{\libgreekfont}{177}
127 \DeclareMathSymbol{\beta}{\mathord}{\libgreekfont}{178}
128 \DeclareMathSymbol{\gamma}{\mathord}{\libgreekfont}{179}
129 \DeclareMathSymbol{\delta}{\mathord}{\libgreekfont}{180}
130 \DeclareMathSymbol{\epsilon}{\mathord}{\libgreekfont}{181}
131 \DeclareMathSymbol{\zeta}{\mathord}{\libgreekfont}{182}
132 \DeclareMathSymbol{\eta}{\mathord}{\libgreekfont}{183}
133 \DeclareMathSymbol{\theta}{\mathord}{\libgreekfont}{184}
134 \DeclareMathSymbol{\iota}{\mathord}{\libgreekfont}{185}
135 \DeclareMathSymbol{\kappa}{\mathord}{\libgreekfont}{186}
136 \DeclareMathSymbol{\lambda}{\mathord}{\libgreekfont}{187}
137 \DeclareMathSymbol{\mu}{\mathord}{\libgreekfont}{188}
138 \DeclareMathSymbol{\nu}{\mathord}{\libgreekfont}{189}
139 \DeclareMathSymbol{\xi}{\mathord}{\libgreekfont}{190}
140 \DeclareMathSymbol{\omicron}{\mathord}{\libgreekfont}{191}
141 \DeclareMathSymbol{\pi}{\mathord}{\libgreekfont}{192}
142 \DeclareMathSymbol{\rho}{\mathord}{\libgreekfont}{193}
143 \DeclareMathSymbol{\varsigma}{\mathord}{\libgreekfont}{194}
144 \DeclareMathSymbol{\sigma}{\mathord}{\libgreekfont}{195}
145 \DeclareMathSymbol{\tau}{\mathord}{\libgreekfont}{196}
146 \DeclareMathSymbol{\upsilon}{\mathord}{\libgreekfont}{197}
147 \DeclareMathSymbol{\phi}{\mathord}{\libgreekfont}{198}
148 \DeclareMathSymbol{\chi}{\mathord}{\libgreekfont}{199}
149 \DeclareMathSymbol{\psi}{\mathord}{\libgreekfont}{200}
150 \DeclareMathSymbol{\omega}{\mathord}{\libgreekfont}{201}
151 \DeclareMathSymbol{\iotadieresis}{\mathord}{\libgreekfont}{202}
152 \DeclareMathSymbol{\upsilondieresis}{\mathord}{\libgreekfont}{203}
153 \DeclareMathSymbol{\omicrontonos}{\mathord}{\libgreekfont}{204}
154 \DeclareMathSymbol{\epsilontonos}{\mathord}{\libgreekfont}{205}
155 \DeclareMathSymbol{\omegatonos}{\mathord}{\libgreekfont}{206}
156 %%
157 \DeclareMathSymbol{\vartheta}{\mathord}{\libgreekfont}{209}

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158 \DeclareMathSymbol{\varUpsilon}{\mathord}{\libgreek@Greek}{210}
159 \DeclareMathSymbol{\varUpsilontonos}{\mathord}{\libgreek@Greek}{211}
160 \DeclareMathSymbol{\varUpsilondieresis}{\mathord}{\libgreek@Greek}{212}
161 \DeclareMathSymbol{\varphi}{\mathord}{libgreekfont}{213}
162 \DeclareMathSymbol{\varpi}{\mathord}{libgreekfont}{214}
163 \DeclareMathSymbol{\varvarkappa}{\mathord}{\libgreek@Greek}{215}
164 \DeclareMathSymbol{\varvarsigma}{\mathord}{\libgreek@Greek}{219}
165 \DeclareMathSymbol{\Digamma}{\mathord}{\libgreek@Greek}{220}
166 \DeclareMathSymbol{\digamma}{\mathord}{libgreekfont}{221}
167 \DeclareMathSymbol{\Koppa}{\mathord}{\libgreek@Greek}{222}
168 \DeclareMathSymbol{\koppa}{\mathord}{libgreekfont}{223}
169 \DeclareMathSymbol{\Sampi}{\mathord}{\libgreek@Greek}{224}
170 \DeclareMathSymbol{\sampi}{\mathord}{libgreekfont}{225}
171 \DeclareMathSymbol{\varkappa}{\mathord}{libgreekfont}{240}
172 \DeclareMathSymbol{\varrho}{\mathord}{libgreekfont}{241}
173 \DeclareMathSymbol{\varTheta}{\mathord}{\libgreek@Greek}{244}
174 \DeclareMathSymbol{\varepsilon}{\mathord}{libgreekfont}{245}
175 \DeclareMathSymbol{\reversedvarepsilon}{\mathord}{libgreekfont}{246}
176 %%
177 \DeclareMathSymbol{\tonos}{\mathord}{libgreekfont}{132}
178 \DeclareMathSymbol{\dieresistonos}{\mathord}{libgreekfont}{133}
179 \endinput

```