1 What is Fourier-GUTenberg?

Fourier-GUTenberg is a \LaTeX\ typesetting system which uses Adobe Utopia as its standard base font. Adobe Utopia has been chosen for several reasons. The main of them is that four typefaces from the Utopia fonts packages have been gracefully donated to the X-consortium by Adobe. These typefaces (Utopia Regular, Utopia Italic, Utopia Bold, Utopia Bold Italic) are free of charges, and freely distributable (but it is not free software: see the licence in the read-me file!).

Shortly, here are the main features of Fourier-GUTenberg:

☞ Fourier-GUTenberg provides all complementary typefaces needed to allow Utopia based \LaTeX\ typesetting. The system is absolutely stand-alone: apart from Utopia and fourier, no other typefaces are required.

☞ Fourier-GUTenberg provides two greeks, slanted and upright, that may be used in the same document.

☞ It make it possible to typeset “à la française”: upright roman uppcercases, and upright greek in math mode.

☞ Fourier-GUTenberg do not use OT1 encoding at all. As in standard \LaTeX\ greek uppcercases are in the text OT1 font, maths encodings have been redefined.

☞ It is fully T1 encoded: text symbols like “dottlessj” (\j, \j) or “eng” (\eta, \Eta) are provided through a virtual fonts mechanism.

☞ Optionnally, the commercial Adobe expert complement may be fully used by fourier. It includes old-style digits, real (not faked) small caps, semi-bold, extra-black, etc. It may be usefull for professionnal typesetting, but of course, you have to buy the fonts!

☞ The \texttt{\textbackslash boldmath} command is not still fully implemented, \textit{but} there are now bold versions of math letters fonts, which can be used with the \texttt{\textbackslash bm} command (package \texttt{\textbackslash bm.sty} which \textit{must} be called after \texttt{fourier.sty}): \(ax + \beta y\).
Fourier-GUTenberg provides specific symbols, in math mode ([,] \[ \[ ] \) and in text mode (\( \varepsilon, \in, \notin \)).

There is a new package provided with Fourier-GUTenberg: fourier-orns. This is for those who want only the Fourier-GUTenberg logos & decos, but not the Fourier-GUTenberg fonts. Please don’t call it if you call fourier.

2 Usage

2.1 Calling Fourier-GUTenberg

You call Fourier-GUTenberg with:

\usepackage[<options>]{fourier}

The options are:

1. sloped (default): in maths, lowercase greek is slanted, uppercase greek is upright, roman uppercase are slanted.

\[ M \in \Gamma \iff OM = x \rho \]

2. upright (à la french): in maths, lowercase and uppercase greeks are upright, and so is roman uppercase.

\[ M \in \Gamma \iff OM = x \rho \]

3. widespace: this option offers a larger interword space to those who think that the standard space of Utopia is too narrow...

4. expert, oldstyle, fulloldstyle: in order to use these options you need the commercial complements of Utopia. The expert option provides small caps (not faked), semi-bold, extra-black, (see the commands below) and more symbols in the TS1 companion encoding. The oldstyle option is the same, with oldstyle digits in text mode, and the fulloldstyle option is the same with oldstyle digits in text mode and in math mode.

(new in Fourier-GUTenberg 2.0) With expert, oldstyle or fulloldstyle options, you get the \superieures new command, which permits to use the superior letters of the (commercial) expert font if those letters exists. You also get a new sci font shape (\fontshape{sci}\selectfont) and the two associated NFSS commands \scishape and \textsci. Those commands are for slanted small capitals. The it and sc selectors are not combinable to get those new features.

5. poorman (default): if you don’t have the commercial complement, you must use this option. The main disadvantage is that small caps will became reduced caps.
2.2 Text commands

First it is not useful to call the T1 encoding (\usepackage[T1]{fontenc}) because \texttt{fourier} will do it anyway.

Note that the T1 encoding have been completed:

\texttt{\j \j \j etc.}
\texttt{\ng, \NG \eta, \Lambda, \eta, \Lambda etc.}
\texttt{\textperthousand, \textpertenthousand \%, \%, \%, \% etc.}

2.3 The companion encoding

The TS1 encoding is generally used through the \texttt{textcomp} package. This encoding is not fully implemented in Fourier-GUT\texttt{enberg} and the \texttt{textcomp} package is called by \texttt{fourier}.

What is available is roughly what is provided in the adobe standard encoding, with some complements:

\texttt{The euro symbol: \texteuro \euro \euro \euro.}

2.4 Fourier ornaments

Fourier-GUT\texttt{enberg} calls the fourier-ornaments companion package. See the \texttt{fourier-orns} documentation for details.

2.5 Mathematical encodings

Compatibility with amsmath

Fourier-GUT\texttt{enberg} is compatible with the \texttt{amsmath} package, you no longer need to call \texttt{amsmath} before \texttt{fourier} (thanks to Walter Schmidt). The \texttt{amssymb} package will be useful only if the wanted symbols does not still exists in Fourier-GUT\texttt{enberg} (see the list below). If you finally need \texttt{amssymb}, it is best to call it before \texttt{fourier}.

Standard \LaTeX{} math commands

All standard \LaTeX{} math commands are supported by Fourier-GUT\texttt{enberg}.

Of course, all these symbols have been redesigned in order to suit Utopia in terms of boldness, contrast and proportions. Greek is particularly concerned:

\texttt{\texttt{a}, \texttt{a}, \texttt{a}, \texttt{a}, \texttt{n}, \texttt{\eta}, \texttt{n}, \texttt{\eta}, \texttt{c}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\Lambda}, \texttt{\Lambda}}

\texttt{\texttt{a}, \texttt{a}, \texttt{a}, \texttt{a}, \texttt{n}, \texttt{\eta}, \texttt{n}, \texttt{\eta}, \texttt{c}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\epsilon}, \texttt{\Lambda}, \texttt{\Lambda}}
but also delimiters (and plenty of others glyphs):

\[
- \left\{ \left\{ \left\{ \left\{ \{ \overline{D} \} \} \} \} \right\} \right\} - \left\{ \left\{ \left\{ \left\{ \left\{ \overline{D} \right\} \right\} \right\} \right\} \right\}
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\]

**Mathematical alphabets**

Latin alphabets have been stolen to Utopia...

☞ Greek alphabet

Slanted version

\[\alpha, \beta, \gamma, \delta, \varepsilon, \zeta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \pi, \rho, \sigma, \tau, \upsilon, \chi, \psi, \omega\]

\[\Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Upsilon, \Phi, \Psi, \Omega\]

Variants: \[\varepsilon, \vartheta, \varnothing, \epsilon, \varphi\]

Upright version

\[\alpha, \beta, \gamma, \delta, \varepsilon, \zeta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \pi, \rho, \sigma, \tau, \upsilon, \chi, \psi, \omega\]

\[\Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Upsilon, \Phi, \Psi, \Omega\]

Variants: \[\varepsilon, \vartheta, \varnothing, \epsilon, \varphi\]

The way these symbols may be obtained depends on the required option (slowed ou upright). For instance, with

\[\alpha, \text{other} \alpha, \Omega, \text{other} \Omega\]

You get

\[\alpha, \alpha, \Omega, \Omega\]

with the slowed option and

\[\alpha, \alpha, \Omega, \Omega\]

with the upright option.

The \text{other} prefix allow you to switch from one greek to the other.

☞ Calligraphic alphabet (\texttt{\textbackslash mathcal} command)

\[\mathcal{A}\mathcal{B}\mathcal{C}\mathcal{D}\mathcal{E}\mathcal{F}\mathcal{G}\mathcal{H}\mathcal{I}\mathcal{J}\mathcal{K}\mathcal{L}\mathcal{M}\mathcal{N}\mathcal{O}\mathcal{P}\mathcal{Q}\mathcal{R}\mathcal{S}\mathcal{T}\mathcal{U}\mathcal{V}\mathcal{W}\mathcal{X}\mathcal{Y}\mathcal{Z}\]

☞ Blackboard-bold alphabet (\texttt{\textbackslash mathbb} command). No need to load \texttt{amssymb} to get it!

\[\mathbb{A}\mathbb{B}\mathbb{C}\mathbb{D}\mathbb{E}\mathbb{F}\mathbb{G}\mathbb{H}\mathbb{I}\mathbb{J}\mathbb{K}\mathbb{L}\mathbb{M}\mathbb{N}\mathbb{O}\mathbb{P}\mathbb{Q}\mathbb{R}\mathbb{S}\mathbb{T}\mathbb{U}\mathbb{V}\mathbb{W}\mathbb{X}\mathbb{Y}\mathbb{Z}\]

\[k\]
Provided \texttt{amsfonts} commands
\begin{align*}
\leqslant & \quad \geqslant \\
\intercal & \quad \nparallel \\
\smallsetminus & \quad \nexists \\
\complement & \quad \notowns \\
\leftleftarrows & \quad \rightsquigarrow
\end{align*}

\textbf{Fourier-GUTenberg extended commands}

The \texttt{\widehat} and \texttt{\widetilde} commands have been extended (like in \texttt{yhmath}).

\begin{align*}
\hat{x} & \quad \hat{xx} & \quad \hat{xxx} \\
\tilde{x} & \quad \tilde{xx} & \quad \tilde{xxx}
\end{align*}

\textbf{Fourier-GUTenberg specific commands}

The following commands are provided by Fourier-GUTenberg.

\begin{itemize}
\item \texttt{\varkappa}, \texttt{\varvarrho}, \texttt{\varpi}, \texttt{\varpartialdiff}
\item \texttt{\parallelslant et \nparallelslant}
\item \texttt{\iint}, \texttt{\iiint}, \texttt{\oiint}, \texttt{\oiiint}, \texttt{\slashint}
\item \texttt{\llbracket, \rrbracket, \VERT}
\end{itemize}

Note that the first version of Fourier-GUTenberg used \texttt{\dblbrackleft} and \texttt{\dblbrackright} in place of \texttt{\llbracket} and \texttt{\rrbracket}. The old commands still exist, but are deprecated.

\begin{itemize}
\item \texttt{\wideparen et \widering} (like in \texttt{yhmath}, but please note that it is necessary to call the \texttt{ansmath} package in order to get the \texttt{\widering} command in Fourier-GUTenberg).
\item Finally \texttt{\widearc} and \texttt{\wideOarc}
\end{itemize}
2.6 Usage of commercial typefaces

The expert, oldstyle or fulloldstyle options, if usable, provides these complementary commands:

\textsb \sbseries semi-bold;
\textblack \blackseries extra-black;
\texttitle \titleshape titling (incomplete T1 encoding);
\oldstyle to switch to the oldstyle digits with the expert option;
\lining to switch to the lining digits with the oldstyle option.