Kp-fonts: OpenType version

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This bundle provides OpenType versions of Type1 Kp-fonts designed by Christophe Caignaert. See `Kpfonts-Doc-English.pdf` for the full documentation of the original Type1 fonts.

It is usable only with LuaTeX or XeTeX engines; it consists of sixteen Text OpenType fonts, a Roman family **KpRoman** in eight shapes and weights —*Regular*, *Italic*, *Bold*, *BoldItalic*, *Light*, *LightItalic*, *Semibold*, *SemiboldItalic*—, a Sans-Serif family **KpSans** and a TypeWriter family **KpMono**, each of them in four shapes and weights—*Regular*, *Italic*, *Bold* and *BoldItalic*— and six maths OpenType fonts **KpMath-Regular**, **KpMath-Bold**, **KpMath-Light**, **KpMath-Semibold**, **KpMath-Sans** and **KpMath-SansBold**.

KpRoman and **KpSans** families have small caps available in two sizes (SmallCaps and PetiteCaps), upper and lowercase digits (0123456789), ancient ligatures ct, st and Q a long-tailed capital Q. Superior and inferior digits and letters have been added to the OpenType **KpRoman** and **KpSans** fonts for footnotes' calls and abbreviations 1^{st}, 2^{nd}…

The support of text fonts covers Latin and Latin Extended A (U+0020 to U+017F) but neither IPA nor Greek nor Cyrillic alphabets.

For all maths fonts, Latin and Greek letters are available in Upright and Italic shapes, in Bold and Regular weights: a β C Δ, *a β C Δ*, **a β C Δ**, ***a β C Δ***.

Blackboard Bold capitals are available in two shapes, Serif and Sans: `\mathbb{ABC}` prints either 𝔸𝔹ℂ (default) or 𝔸𝔹ℂ (option `[Style=bbsans]`) Commands `\mathcal{ABC}` and `\mathscr{ABC}` print respectively $\mathcal{ABC}$ and $\mathscr{ABC}$ while `\mathfrak{ABCabc}` prints 𝔄𝔅ℭ𝔞𝔟𝔠.

File `unimath-kpfonts.pdf` shows the full list of Unicode maths symbols provided by Kp-fonts, compared with other common maths fonts. More symbols, specific to Kp-fonts, are listed in section 3.2.

A style file `kpfont-otf.sty` is provided to load Kp-fonts easily. It is derived from `kpfont.sty` but options differ.

Please beware of the *experimental* status of the current version (0.67).

1 Loading kpfonts-otf.sty

For users of the original kpfonts.sty package, the easiest way to try the OpenType version is to load kpfonts-otf.sty:

\usepackage[*options*]{kpfonts-otf}

this loads unicode-math, fontspec and usually realscripts[1], and defines **KpRoman** (**Regular** or **Light** depending on options), **KpSans** and **KpMono** as Text fonts, **KpMath** (**Regular** or **Light** depending on options) as maths fonts.

kpfonts-otf.sty also defines all symbols available in latexsym and amssymb under the same names[2] and a bunch of Kp-fonts specifics symbols.

1.1 Global options for both text and maths

light: switches to *light* fonts, metrics are unchanged; *light* fonts might not look perfect on screen but they print fine.

Please compare *regular* (left) and *light* fonts (right):

Normal or light? Just a matter of taste. $E = mc^2$	Normal or light? Just a matter of taste. $E = mc^2$
Normal or light? Just a matter of taste	*Normal or light? Just a matter of taste*
Normal or light? Just a matter of taste	**Normal or light? Just a matter of taste**
Normal or light? Just a matter of taste	***Normal or light? Just a matter of taste***

sans: switches to *sans-serif* fonts for text and maths.

nomath: load neither unicode-math nor **KpMath** fonts; useful for documents without maths, or to choose other maths fonts.

notext: do not change any Text font, use the defaults.

nosf: do not change Sans-Serif Text fonts, use the defaults.

nott: do not change Typewriter Text fonts, use the defaults.

onlyrm: equivalent to the last two combined.

fulloldstyle: equivalent to options oldstyle and oldstylemath.

fulloldstylenums: equivalent to options oldstylenums and oldstylenumsmath.

[1] See option fakedscripts below.
[2] Unicode names often differ from AMS names.

1.2 Options for text fonts *only*

lighttext: switches to *light* Text fonts.

Two more weights are provided by `kpfonts-otf.sty`: with the *lighttext* (or *light*) option, *Semibold* and *Extrabold* vs *Light* and *Semibold* without it. These weights are available through `\ltseries`, `\sbseries` and `\ebseries` commands to be used in a group or alternatively through one argument commands `\textlt{}`, `\textsb{}` and `\texteb{}`.

`{\sbseries\itshape Foo}` or `\textsb{\textit{Foo}}` print *Foo*.

sfstext: switches to *sans-serif* text fonts.

fakedscripts : prevents `realscripts` to be loaded, super- and sub-scripts will be produced by scaling (this is the way pdflatex works) which gives access to all characters available in the font but produces too tall and too thin glyphs. On the other hand `realscripts` gives access to the super/sub-scripts available in the font (a reduced set made of digits, lowercase latin letters, parentheses, etc. for the Kpfonts) which are better looking. I would recommend to keep `realscripts` loaded and to use the starred variants `\textsuperscript*`, `\textsubscript*`, to produce faked super/sub-scripts when needed, coding `H\textsuperscript*{\#}` to get $H^{\#}$ while `H\textsuperscript{\#}` would output H# (# missing as superscript).

oldstylenums: provides lowercase digits as a default.

To get uppercase digits locally: `{\addfontfeature{Numbers=Lining} 123}`.

Examples, upright, italic, bold and bolditalic:

- 0123456789 !
- *0123456789 !*
- **0123456789 !**
- ***0123456789 !***

oldstyle: provides lowercase digits as a default, long-tailed Q (Quebec) and (for Roman and Sans-Serif fonts only) old style ligatures 'ct' and 'st'.

Examples:

- Quest for an attractive font!
- *Quest for an attractive font!*
- **Quest for an attractive font!**
- Quest for an attractive font!
- ***Quest for an attractive font!***
- **Quest for an attractive font!**

veryoldstyle: same as option `oldstyle` but the round 's' is replaced by the long one 'ſ' unless it ends a word or is followed by *b*, *f* or *h*[3] and ancient ligatures ﬁ, ﬂ, ﬅ are activated. Coding `\textit{some of Highlands' mysterious castles…}` will print *ſome of Highlandſ' myſteriouſ caſtleſ…* which is correct.

The automatic substitution relies on the OpenType feature `StylisticSet=12`. A round 's' (resp. long 'ſ') can be forced by coding `s=` or `\shorts{}` (resp. `f`[4] or `\longs{}`).

largesmallcaps: prints larger SMALL CAPS than the default ones (PETITE CAPS).

altfligs : prints alternative shapes for ligatures fi, fl, ffi, ffl instead of fi, fl, ffi, ffl.

germandbls : `\SS` prints SS instead of ß (capital *Eszett*), ditto for small/petite caps.

eurosym : replaces the Euro character (€) by the official symbol (€) (available in regular, italic, bold and bolditalic).

harfbuzz : switches `Renderer=Harfbuzz` for HBLuaTeX engine; up to version 0.34, this renderer was silently activated but seldom useful.

1.3 Options for maths fonts *only*

lightmath: uses *light* maths fonts.

sfmath: uses *sans-serif* maths fonts.

bbsans: command `\mathbb` prints Sans-Serif Blackboard Bold capitals with Serif fonts too: compare $\mathbb{C}$, $\mathbb{K}$, $\mathbb{N}$, $\mathbb{Q}$, $\mathbb{R}$, $\mathbb{Z}$, with $\mathbb{C}$, $\mathbb{K}$, $\mathbb{N}$, $\mathbb{Q}$, $\mathbb{R}$, $\mathbb{Z}$ (default).

frenchstyle: Latin uppercase letters and all Greek letters are printed upright, only lowercase Latin letters are printed in italics; this follows the French typographic usage.

oldstylenumsmath: prints lowercase digits in maths (default is uppercase).

narrowiints: prints condensed repeated integrals :

$\iint$ and $\iiint$ instead of $\iint$ and $\iiint$ (default).

partialup: the `\partial` symbol is printed upright ∂ instead of ∂.

fancyRelm: commands `\Re` and `\Im` print $\mathfrak{Re}$ and $\mathfrak{Im}$ respectively instead of $\mathfrak{R}$ and $\mathfrak{I}$.

tight : horizontal spaces tightened in maths mode (same settings as `fourier-otf`).

noDcommand: do not define `\D` to avoid incompatibilities with other packages.

[3] Rules found on wikipedia.
[4] On Unix systems the `Compose` key can be used: `Compose f s`.

Please note that the **mathcal** option has been deleted: commands `$\mathcal{ABC}$` and `$\mathscr{ABC}$` now print $\mathcal{ABC}$ and $\mathscr{ABC}$ respectively when `kpfonts-otf.sty` is loaded.

2 Another way to load Kp-fonts

Loading Kp-fonts through `kpfonts-otf.sty` offers only a limited choice of options; the standard commands `\setmainfont`, `\setsansfont`, `\setmonofont`, `\setmathfont` offer much more flexibility.

On the other hand, `kpfonts-otf.sty` defines a lot of useful commands to access AMS and specific Kp-fonts symbols. Loading `kpfonts-otf` with the `symbols` option enables to get all these commands defined without loading any font:

```
\usepackage[symbols]{kpfonts-otf}
```

Please note that `unicode-math`[5] (and `fontspec`) *are loaded* by this procedure, no need to do it again, unless specific options are required, then `unicode-math` has to be loaded *before* `kpfonts-otf`, f.i.:

```
\usepackage[math-style=ISO,bold-style=upright]{unicode-math}
\usepackage[symbols]{kpfonts-otf}
```

Then, it is up to the user to load Kp-fonts with whatever option he/she likes using commands

`\set...font{`*font*`}[`*options*`]`.

For documents requiring no maths fonts, loading `fontspec` and using the `\set...font` commands is enough, no need to load `kpfonts-otf` at all.

2.1 Options for Text fonts

Here are the options available for Text Kp-fonts:

Numbers=Lowercase to get lowercase digits 1,2,3 instead of 1,2,3; the default is **Numbers=Lining**.

SmallCapsFeatures = {Letters=SmallCaps} the `\textsc{}` command will print larger Small Caps than the default Petite Caps.
The default setting[6], is **SmallCapsFeatures = {Letters=PetiteCaps}**.

Ligatures=TeX (default) ' !` ?` -- --- print respectively ’ ¡ ¿ – —.

Ligatures=Common (default) automatic ligatures ff ffi ffl fi fl (plus s=).

[5] A careful reading of both manuals `unicode-math.pdf` and `fonspec.pdf` (available in all TeX distributions) is required in order to take full advantage of these packages.
[6] Changed in v0.37 to match the original `kpfonts` package.

StylisticSet=1 provides an alternative for glyphs ffi ffl fi fl (ff is unchanged).

Ligatures=Required : adds ft and tt ligatures.

Ligatures=Rare adds ct and st ligatures.

Style=Swash to get the long-tailed capital Q: Queen, also in small caps (both sizes): Queen and Queen.

Style=Historic replaces any instance of 's' by the long variant 'ſ'. It is still possible to get a round 's' coding it as 's='; this option should no longer be used, it is superseded by `StylisticSet=12` below.

StylisticSet=12 has been described in option `veryoldstyle` p. 4: it operates a contextual substitution of round 's' by long 'ſ'. An alias `Style=autolongs` is available if `kpfonts-otf.sty` has been loaded.

Ligatures=Historic switches specific ligatures for the long ſ: ſi, ſl, ſt.

StylisticSet=2 : `\SS` prints SS instead of ß (capital *Eszett*), ditto for small/petite caps.

StylisticSet=3 replaces the Euro character (€) by the official symbol (€) (available in regular, italics, bold and bolditalic).

Options may be are chosen for each font, say:

```
\setmonofont{KpMono}[Numbers=Lowercase,Style=Historic]
```

but can also be shared by different typefaces:

```
\defaultfontfeatures+[KpRoman,KpSans,KpMono]{Numbers=Lowercase}
\defaultfontfeatures+[KpRoman,KpSans]{%
 Ligatures = Rare,
 Style = Swash,
 SmallCapsFeatures = {Letters=PetiteCaps},
 }
\setmainfont{KpRoman}
\setsansfont{KpSans}
\setmonofont{KpMono}
```

Notes :

1. `\setmonofont{KpMono}`, `\setsansfont{KpSans}`, `\setmainfont{KpRoman}` rely on files `KpMono.fontspec`, `KpSans.fontspec` and `KpRoman.fontspec` installed by Kpfonts, to define Italic, Bold, BoldItalic faces, there is no need for options `ItalicFont = `, `BoldFont = `.
2. Note the + ending `\defaultfontfeatures+` : options are *added*, not overwriting any other (including those of `fontspec.cfg`).
3. Options can be gathered: `Ligatures={Rare,Historic}` (with braces) is equivalent to `Ligatures=Rare` and `Ligatures=Historic`.

4. These options can also be switched on and off *locally* using `\addfontfeatures` inside a group, f.i. to print lowercase digits 1234576890 with a font loaded with option `Numbers=Lining`:

```
{\addfontfeatures{Numbers=Lowercase}1234576890}
```

Actually, a shortcut is available in this case: `\oldstylenums{1234576890}`.

5. With the **KpRoman**, it is possible to define two more weights *Light* and *Semibold* borrowed from **KpLight**:

```
\newfontfamily\KpLight{KpLight}[<same options as KpRoman>]
\newcommand*{\ltseries}{\KpLight}
\newcommand*{\sbseries}{\KpLight\bfseries}
\DeclareTextFontCommand{\textlt}{\ltseries}
\DeclareTextFontCommand{\textsb}{\sbseries}
```

These weights are then available through `\ltseries`, `\sbseries` commands to be used in a group or alternatively through one argument commands `\textlt{}` and `\textsb{}`.

With the **KpLight**, weights *Semibold* and *Extrabold* can be defined similarly.

2.2 Options for maths fonts

The following options can be passed either to `unicode-math`[7] or to `\setmathfont{}`:

math-style = `ISO`, `TeX` (default), `french`, `upright`;

bold-style = `ISO`, `TeX` (default), `upright`;

partial = `upright` (default italic);

nabla = `italic` (default upright);

Seven 'Style Variants' are available with Kp-fonts, here are the first three:

Style=mathcal (`+ss01`) commands `\mathcal{}` and `\mathscr{}` print $\mathcal{ABC}$ instead of $\mathscr{ABC}$ (default), see note below;

Style=bbsans (`+ss02`) `\mathbb{}` prints Sans-Serif Blackboard bold capitals $\mathbb{ABC}$ for Serif maths fonts `KpMath-Regular` and `KpMath-light` instead of $\mathbb{ABC}$;

Style=narrowiints (`+ss03`) provides condensed repeated integrals: $\iiint$ instead of $\iiint$ (default).

Note: if you want commands `$\mathcal{ABC}$` and `$\mathscr{ABC}$` to print $\mathcal{ABC}$ and $\mathscr{ABC}$ respectively, you can use `unicode-math`'s option `range` this way:

```
\setmathfont{KpMath-Regular}[options]
\setmathfont{KpMath-Regular}[range={cal,bfcal},StylisticSet=1]
```

[7] See the manual `unicode-math.pdf`.

Both lines are mandatory: the first one loads **KpMath** as usual while the second one modifies `\mathcal{}` command's output.

The next four tables present the other Style Variants available:

Table 1: Style=leqslant (+ss04)

Command	Default	Variant
`\leq`	$\leq$	$\leqslant$
`\geq`	$\geq$	$\geqslant$
`\nleq`	$\not\leq$	$\not\leqslant$
`\ngeq`	$\not\geq$	$\not\geqslant$
`\leqq`	$\leqq$	$\leqslant$
`\geqq`	$\geqq$	$\geqslant$
`\eqless`	$\eqless$	$\leqslant$
`\eqgtr`	$\eqgtr$	$\geqslant$
`\lesseqgtr`	$\lesseqgtr$	$\leqslant$
`\gtreqless`	$\gtreqless$	$\geqslant$
`\lesseqqgtr`	$\lesseqqgtr$	$\leqslant$
`\gtreqqless`	$\gtreqqless$	$\geqslant$

Table 2: Style=smaller (+ss05)

Command	Default	Variant
`\mid`	$\mid$	$\shortmid$
`\nmid`	$\nmid$	$\nshortmid$
`\parallel`	$\parallel$	$\shortparallel$
`\nparallel`	$\nparallel$	$\nshortparallel$
`\parallelslant`	$\parallelslant$	$\shortparallelslant$
`\nparallelslant`	$\nparallelslant$	$\nshortparallelslant$

Table 3: Style=subsetneq (+ss06)

Command	Default	Variant
`\subsetneq`	$\subsetneq$	$\subsetneq$
`\supsetneq`	$\supsetneq$	$\supsetneq$
`\subsetneqq`	$\subsetneqq$	$\subsetneqq$
`\supsetneqq`	$\supsetneqq$	$\supsetneqq$

Table 4: Style=parallelslant (+ss07)

Command	Default	Variant
`\parallel`	$\parallel$	$\parallelslant$
`\nparallel`	$\nparallel$	$\nparallelslant$
`\shortparallel`	$\shortparallel$	$\shortparallelslant$
`\nshortparallel`	$\nshortparallel$	$\nshortparallelslant$

Example: switching styles 4 (leqslant) and 6 (subsetneq) can be achieved coding either
`\setmathfont{KpMath-Regular.otf}[StylisticSet={4,6}]` or
`\setmathfont{KpMath-Regular.otf}[Style={leqslant,subsetneq}]`
but this second syntax is available only if `kpfonts-otf.sty` has been loaded (eventually with the `symbols` option).

Table 5 on the following page shows the available 'Glyphs Variants':

Example: with `\setmathfont{KpMath-Regular.otf}[CharacterVariant={3,6}]` commands `\epsilon` and `\phi` print ε and φ instead of ϵ and ϕ. The same is true of course for all shapes and and weights (upright, bold, bolditalic, sans-derif, etc.): f.i. with `math-syle=french`, `\epsilon` and `\phi` print $\upvarepsilon$ and $\upvarphi$ (upright).

Note about `\hbar`: `unicode-math` defines `\hbar` as `\hslash` (U+210F) while `amsmath` provides two different glyphs (italic h with horizontal or diagonal stroke).
`kpfonts-otf` now follows `unicode-math`; the italic h with horizontal stroke can be printed using `\hslash` or `\hbar` together with character variant `cv01` or with `\mithbar` (replacement for AMS' command `\hbar`).

Table 5: Glyphs Variants

	Default	Variant	Command
cv00	$\Re$ $\Im$	$\mathfrak{Re}$ $\mathfrak{Im}$	\Re \Im
cv01	$\hbar$	$\hbar$	\hslash or \hbar
cv02	$\varnothing$	$\emptyset$	\emptyset
cv03	ϵ	ε	\epsilon
cv04	κ	$\varkappa$	\kappa
cv05	π	ϖ	\pi
cv06	ϕ	φ	\phi
cv07	ρ	ϱ	\rho
cv08	σ	ς	\sigma
cv09	θ	ϑ	\theta
cv10	Θ	$\varTheta$	\Theta

3 Specific commands defined in `kpfonts-otf.sty`

3.1 Integrals

Kp-fonts offers variants for integral symbols suitable for indefinite integrals, they are coded as `\varint`, `\variint`, `\variiint`, `\variiiint` and `\varidotsint`. Compare $\int f(t)\,dt$ and $\int f(t)\,dt$ and also

$$\int f(t)\,dt \qquad \text{and} \qquad \int f(t)\,dt$$

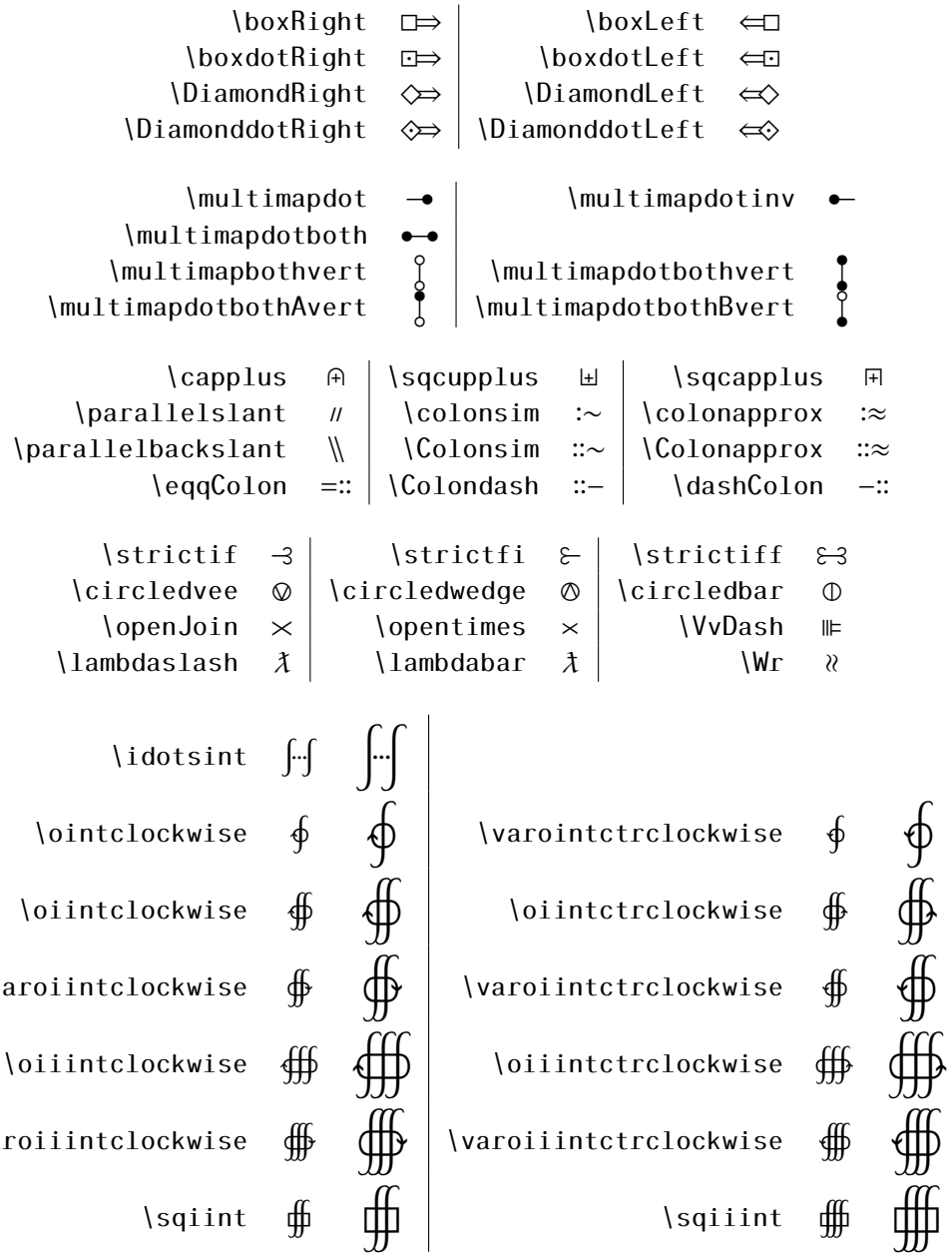
`\D{...}` prints an upright 'd' and improves kernings around the differential element: `\displaystyle\varint f(t)\D{t}` prints $\displaystyle\int f(t)\,\mathrm{d}t$.

3.2 Specific maths symbols

The next tables present symbols unavailable as Unicode characters, they are coded in Kp-fonts' private zone.

\mmapsto	$\mapsto$	\longmmapsto	$\longmapsto$
\mmapsfrom	$\mapsfrom$	\longmmapsfrom	$\longmapsfrom$
\Mmapsto	$\Mapsto$	\Longmmapsto	$\Longmapsto$
\Mmapsfrom	$\Mapsfrom$	\Longmmapsfrom	$\Longmapsfrom$
\leftrightdasharrow	$\leftrightarrow$	\leadsto	$\rightsquigarrow$

\boxright	$\boxright$	\boxleft	$\boxleft$
\circleright	$\circleright$	\circleleft	$\circleleft$
\Diamondright	$\Diamondright$	\Diamondleft	$\Diamondleft$
\boxdotright	$\boxdotright$	\boxdotleft	$\boxdotleft$
\circledotright	$\circledotright$	\circledotleft	$\circledotleft$
\Diamonddotright	$\Diamonddotright$	\Diamonddotleft	$\Diamonddotleft$



The full list of Unicode symbols available with Kp-fonts is shown in file `unimath-kpfonts.pdf`.

3.3 Wide accents

- `\wideoverbar` and `\mathunderbar`[8]

$$\overline{x} \quad \overline{xy} \quad \overline{xyz} \quad \overline{A \cup B} \quad \overline{A \cup (B \cap C) \cup D} \quad \underline{m+n+p}$$

[8] `\overline` and `\underline` are not font related, they are based on `\rule`.

- `\widehat` and `\widetilde`

$$\widehat{x}\ \widehat{xx}\ \widehat{xxx}\ \widehat{xxxx}\ \widehat{xxxxx}\ \widehat{xxxxxx}\ \widetilde{x}\ \widetilde{xx}\ \widetilde{xxx}\ \widetilde{xxxx}\ \widetilde{xxxxx}\ \widetilde{xxxxxx}$$

- `\widecheck` and `\widebreve`

$$\breve{x}\quad \breve{xxxx}\quad \breve{xxxxxx}\quad \check{x}\quad \check{xxxx}\quad \check{xxxxxx}$$

- `\overparen` and `\underparen`

$$\overparen{x}\quad \overparen{xy}\quad \overparen{xyz}\quad \overparen{\overset{\circ}{A\cup B}}\quad \overparen{\overset{\circ}{A\cup(B\cap C)\cup D}}\quad \overparen{\overset{2}{x+y}}\quad \overparen{\overset{26}{a+b+\ldots+z}}$$

$$\underparen{x}\quad \underparen{xz}\quad \underparen{xyz}\quad \underparen{\underset{2}{x+z}}\quad \underparen{\underset{26}{a+b+\ldots+z}}$$

- `\overbrace` and `\underbrace`

$$\overbrace{a}\quad \overbrace{ab}\quad \overbrace{abc}\quad \overbrace{abcd}\quad \overbrace{abcde}\quad \overbrace{a+b+c}^{3}\quad \overbrace{a+b+\ldots+z}^{26}$$

$$\underbrace{a}\quad \underbrace{ab}\quad \underbrace{abc}\quad \underbrace{abcd}\quad \underbrace{abcde}\quad \underbrace{a+b+c}_{3}\quad \underbrace{a+b+\ldots+z}_{26}$$

- `\overrightarrow` and `\overleftarrow`

$$\overrightarrow{v}\quad \overrightarrow{M}\quad \overrightarrow{vv}\quad \overrightarrow{AB}\quad \overrightarrow{ABC}\quad \overrightarrow{ABCD}\quad \overrightarrow{ABCDEFGH}.$$

$$\overleftarrow{v}\quad \overleftarrow{M}\quad \overleftarrow{vv}\quad \overleftarrow{AB}\quad \overleftarrow{ABC}\quad \overleftarrow{ABCD}\quad \overleftarrow{ABCDEFGH}$$

- Enfin `\widearc` and `\widearcarrow` (or `\overrightarc`)

$$\overarc{AMB}\quad \overarcarrow{AMB}$$

3.4 Maths Versions

Different versions of the **KpMath** fonts may be defined in the document's preamble:
`\setmathfont{KpMath-Regular.otf}[version=base,` *options* `]`
`\setmathfont{KpMath-Bold.otf}[version=bold,` *options* `]`
`\setmathfont{KpMath-Semibold.otf}[version=semibold,` *options* `]`
`\setmathfont{KpMath-Sans.otf}[version=sans,` *options* `]`
`\setmathfont{KpMath-Light.otf}[version=light,` *options* `]`
then, it is easy to switch from one version to another one with `\mathversion{`*name*`}`.

Example[9] :

[9] Option `CharacterVariant=3` changes ϵ into ε.

```
\setmathfont{KpMath-Regular.otf}[Style=leqslant, CharacterVariant=3]
\setmathfont{KpMath-Bold.otf}[version=bold,
                  Style=leqslant, CharacterVariant=3]
\setmathfont{KpMath-Sans.otf}[version=sans,
                  Style=leqslant, CharacterVariant=3]
```

Here is the same equation in three versions, normal, bold and Sans-Serif:

$$\mathbb{E}_i(N_i) = \sum_{n\geqslant 1} P_i(N_i \geqslant n) = \frac{\epsilon_i}{1-\epsilon_i} < +\infty$$

```
\mathversion{bold}
```

$$\mathbb{E}_i(N_i) = \sum_{n\geqslant 1} P_i(N_i \geqslant n) = \frac{\epsilon_i}{1-\epsilon_i} < +\infty$$

```
\mathversion{sans}
```

$$\mathbb{E}_i(N_i) = \sum_{n\geqslant 1} P_i(N_i \geqslant n) = \frac{\varepsilon_i}{1-\varepsilon_i} < +\infty$$

To get bold formulas you do not need to define `\mathversion{bold}`, you can just use the `\boldmath` command: f.i. `{\boldmath $E=mc^2$}` prints $E = mc^2$.