

Test the *textalpha* package

With the *textalpha* package, you can easily write a single Greek symbol (like Ψ or μ) or a $\lambda\omicron\gamma\omicron\varsigma$ in non-Greek text as well as ISO-conforming formulas with upright constants (like π): $A = \pi r^2$ vs. $A = \pi r^2$. Input is possible via LICR macros (`\textalpha ... \textOmega`) or (with the `utf8` option to *inputenc*) Unicode literals.

1 Greek alphabet

Greek letters via Latin transcription in LGR font encoding:

A B Γ Δ E Z H Θ I K Λ M N Ξ O Π P Σ T Υ Φ X Ψ Ω
α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ χ ψ ω

Greek letters via default macros in other font encoding (here T1):

A B Γ Δ E Z H Θ I K Λ M N Ξ O Π P Σ T Υ Φ X Ψ Ω
α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ χ ψ ω

2 PDF strings

With *textalpha*, you can get Greek letters in PDF strings, too.

2.1 $\lambda\omicron\gamma\omicron\varsigma$, $\lambda\omicron\gamma\omicron\varsigma$ and $\lambda\omicron\gamma\omicron\varsigma$

The subsection title above uses: `text*` macros, Unicode input and the LGR transcription for the Greek word $\lambda\omicron\gamma\omicron\varsigma$. Check the table of contents in the PDF viewer: `text*` macros and Unicode literals work fine, the Latin transcription stays Latin in the PDF metadata.

3 Limitations

Because the internal font encoding switch interferes with other work behind the scenes, kerning, diacritics and up/downcasing show problems if Greek letters are used without explicit change of the font encoding. These problems can be avoided by use of `babel` and the correct language setting (greek or polutoniko-greek) or an explicit font encoding switch.

The `\ensuregreek` macro ensures the argument is set in a font encoding supporting Greek. This can be used to fix these problems (without adverse side-effects if the active font encoding is already LGR).

3.1 Kerning

No kerning occurs between Greek characters in non-Greek text due to the internal font encoding switch: compare ΑΥΑ (LGR) to ΑΥΑ(T1). Because of this (and for proper hyphenation), use of babel and correct language setting is recommended for Greek text parts.

The `\ensuregreek` macro is also used for wrapping of composite Unicode character definitions. Kerning is preserved also between accented characters if the font encoding is LGR: ΑŸΑ vs. ΑŸΑ (T1).

3.2 Diacritics

Composition of diacritics (like `\accdasia\acctonos`) fails in other font encodings. Long names (like `\accdasiaoxia`) work, however they do not select pre-composed characters. With LGR, pre-composed glyphs are chosen if available (the difference becomes obvious if you drag-and-drop text from the PDF version of this document): ᾱ ῥ ῑ ῑ ῑ (LGR) vs. ᾱ (T1).

Diacritics (except the dialytika) are placed before capital letters in titlecase and dropped in all-caps:

ᾱ ῥ ῑ ῑ ῑ
‘Α ‘Ε ‘Ι ῥΗ ῑΟ ῑΥ ῑΩ
Α Ε Ι Η Ο Υ Ω.

However, this does not work in other font encodings: ‘Α (LGR) vs. Ἀ(T1).

The dialytika marks a *hiatus* (break-up of a diphthong). It must be present in UPPERCASE even where it is redundant in lowercase (the hiatus can also be marked by an accent on the first character of a diphthong). The auto-hiatus feature works in LGR font encoding only: ᾱυ, εῖ \mapsto ΑŸ, Εῖ vs. ΑΥ, ΕΙ.

The CamelCase accent macro names should no longer be used. Support will be removed in a future version. ᾱ, ‘Α, Α ᾱ ῑ Α Ÿ (LGR) ᾱ, Ἀ, Α (T1) ᾱ ῑ. ᾱ ῑ Α Ÿ (T1).

4 Greek Unicode characters in non-Greek text

With the *textalpha* package and inputencoding "utf8", Greek Unicode characters can be used in text with any font encoding.

Combined Diacritics work ῥ, diacritics (except diaeresis) are dropped with Make-Uppercase (μαῖστρος \mapsto ΜΑῖΣΤΡΟΣ), but the Hiatus-detection does not work: Currently, the second vowel of the diphthong must be given as macro, not Unicode literal: (ᾱυπνῖα \mapsto ΑŸΠΝΙΑ vs. ΑΥΠΝΙΑ). See greek-unicode for more details.