Test the isomath Package

Font Setup: \usepackage [utopia]{mathdesign}
Isomath: \usepackage [OMLmathrm,OMLmathbf,sfdefault=fav,scaled=0.875]{isomath}
Default font families: Text serif mdput sans-serif cmss
Math serif mdput sans-serif fav

Math alphabets

If there are other symbols in place of Greek letters in a math alphabet, it uses T1 or OT1 font encoding instead of OML.

mathnormal	$A, B, C, \Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Upsilon, \Phi, \Psi, \Omega, \alpha, \beta, \pi, \nu, \omega, \upsilon, w, a, g, 0, 1, 9$
mathit	$A, B, C, \grave{}, \acute{}, \hat{}, \tilde{}, \ddot{}, \dddot{}, \mathring{}, \check{}, \breve{}, \bar{}, \dot{}, ,, ¸, ı, ȷ, !, v, w, a, g, 0, 1, 9$
mathrm	$\mathrm{A, B, C, \Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Upsilon, \Phi, \Psi, \Omega, \alpha, \beta, \pi, \nu, \omega, v, w, a, g, 0, 1, 9}$
mathbf	$\mathbf{A, B, C, \Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Upsilon, \Phi, \Psi, \Omega, \alpha, \beta, \pi, \nu, \omega, v, w, a, g, 0, 1, 9}$
mathsf	$\mathsf{A, B, C, \grave{}, \acute{}, \hat{}, \tilde{}, \ddot{}, \dddot{}, \mathring{}, \check{}, \breve{}, \bar{}, \dot{}, ,, ¸, ı, ȷ, !, v, w, a, g, 0, 1, 9}$
mathtt	$\mathtt{A, B, C, \grave{}, \acute{}, \hat{}, \tilde{}, \ddot{}, \dddot{}, \mathring{}, \check{}, \breve{}, \bar{}, \dot{}, ,, ¸, ı, ȷ, !, v, w, a, g, 0, 1, 9}$

New alphabets bold-italic, sans-serif-italic, and sans-serif-bold-italic.

mathbfit	$\boldsymbol{A, B, C, \Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Upsilon, \Phi, \Psi, \Omega, \alpha, \beta, \pi, \nu, \omega, \upsilon, w, a, g, 0, 1, 9}$
mathsfit	*mathsfit not defined (requires* `OMLmathsfit` *option)*
mathsfbfit	$\mathsfbfit{A, B, C, \Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Upsilon, \Phi, \Psi, \Omega, \alpha, \beta, \pi, \nu, \omega, v, w, a, g, 0, 1, 9}$

Do the math alphabets match?
$axa\omega\boldsymbol{axa\omega axa\omega} \quad \boldsymbol{T\Theta\Gamma T\Theta\Gamma} T\Theta\Gamma$

Vector symbols

Alphabetic symbols for vectors are boldface italic, $\boldsymbol{\lambda} = \boldsymbol{e}_1 \cdot \boldsymbol{a}$, while numeric ones (e.g. the zero vector) are bold upright, $\boldsymbol{a} + \mathbf{0} = \boldsymbol{a}$.

Matrix symbols

Symbols for matrices are boldface italic, too:[1] $\boldsymbol{\Lambda} = \boldsymbol{E} \cdot \boldsymbol{A}$.

Tensor symbols

Symbols for tensors are sans-serif bold italic,

$$\boldsymbol{\alpha} = \boldsymbol{\varepsilon} \cdot \boldsymbol{\alpha} \quad \Longleftrightarrow \quad \alpha_{ijl} = e_{ijk} \cdot a_{kl}.$$

The permittivity tensor describes the coupling of electric field and displacement:

$$\boldsymbol{D} = \epsilon_0 \boldsymbol{\varepsilon}_\mathrm{r} \boldsymbol{E}$$

[1] However, matrix symbols are usually capital letters whereas vectors are small ones. Exceptions are physical Quantities like the force vector $\boldsymbol{F}$ or the electrical field $\boldsymbol{E}$.

Bold math version

The “bold” math version is selected with the commands `\boldmath` or `\mathversion{bold}`

mathnormal	$\boldsymbol{A,B,C,\Gamma,\Delta,\Theta,\Lambda,\Xi,\Pi,\Sigma,\Upsilon,\Phi,\Psi,\Omega,\alpha,\beta,\pi,\nu,\omega,\upsilon,w,a,g,0,1,9}$
mathit	$\boldsymbol{A,B,C,\grave{},\acute{},\hat{},\tilde{},\ddot{},\dddot{},\mathring{},\check{},\breve{},\bar{},\dot{},\,,\,,\imath,,!,v,w,a,g,0,1,9}$
mathrm	$\mathbf{A,B,C,\Gamma,\Delta,\Theta,\Lambda,\Xi,\Pi,\Sigma,\Upsilon,\Phi,\Psi,\Omega,\alpha,\beta,\pi,\nu,\omega,v,w,a,g,0,1,9}$
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mathsf	$\mathsf{A,B,C,\grave{},\acute{},\hat{},\tilde{},\ddot{},\dddot{},\mathring{},\bar{},\bar{},\bar{},\dot{},\,,\,,\imath,,!,v,w,a,g,0,1,9}$
mathtt	$\mathtt{A,B,C,\grave{},\acute{},\hat{},\tilde{},\ddot{},\dddot{},\mathring{},\check{},\breve{},\bar{},\dot{},\,,\,,\imath,,!,v,w,a,g,0,1,9}$

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Do the math alphabets match?
$\boldsymbol{axaωaxaωaxaω}$ $\boldsymbol{TCΘΓTCΘΓTCΘΓ}$

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