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QuickLaTeX Plugin

Workbook

Edition #1
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Contents

1. What is it?
QuickLaTeX plugin enables you to add math formulas and graphics in WordPress using LaTeX and TikZ.

2. What does it do?
This plugin lets you use native LaTeX syntax directly in the posts, pages and comments without special enclosing tags for every equation. It then lets you customize those graphics and formulas by modifying colour, size and position during the writing process.

3. How does it work?

Once the plugin is activated, a **QuickLaTeX** section will appear at the bottom of your **Dashboard SideBar**. Clicking on this will open a new page divided in 5 menus. The first menu, getting started explains how to activate and use the plugin. The others offer setting modification.

➡ **Getting Started**
1) To activate QuickLaTeX while writing a post, use the shortcode `[latexpage]` when in text editor mode. This mode can be found, when writing a post, by clicking on the **Text** tab on the top right-hand side of your writing box (see below).
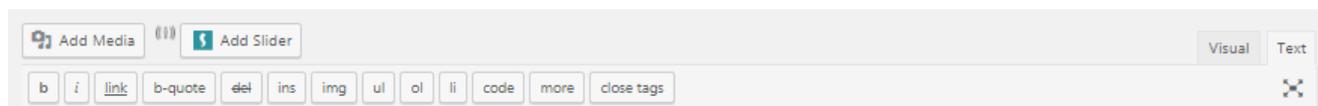
2) After using this shortcode you will be able to insert LaTeX expressions directly into the text by surrounding them with `$...$` or place them displayed with `\[..\]` as you usually do typing offline LaTeX documents.

3) See below to get a preview of how QuickLaTeX expressions appear within the blog

```
[latexpage]
At first, we sample $f(x)$ in the $N$ ($N$ is odd) equidistant points around
$x^*$:
\[
   f_k = f(x_k),\: x_k = x^*+kh,\: k=-\frac{N-1}{2},\dots,\frac{N-1}{2}
\]
where $h$ is some step.
Then we interpolate points $\{(x_k,f_k)\}$ by polynomial
\begin{equation} \label{eq:poly}
   P_{N-1}(x)=\sum_{j=0}^{N-1}{a_jx^j}
\end{equation}
Its coefficients $\{a_j\}$ are found as a solution of system of linear equations:
\begin{equation} \label{eq:sys}
   \left\{ P_{N-1}(x_k) = f_k\right\},\quad k=-\frac{N-1}{2},\dots,\frac{N-1}{2}
\end{equation}
Here are references to existing equations: (\ref{eq:poly}), (\ref{eq:sys}).
Here is reference to non-existing equation (\ref{eq:unknown}).
```

At first, we sample $f(x)$ in the N (N is odd) equidistant points around x^*:

$$f_k = f(x_k), \ x_k = x^* + kh, \ k = -\frac{N-1}{2}, \dots, \frac{N-1}{2}$$

where h is some step.
Then we interpolate points $\{(x_k, f_k)\}$ by polynomial

$$P_{N-1}(x) = \sum_{j=0}^{N-1} a_j x^j \tag{1}$$

Its coefficients $\{a_j\}$ are found as a solution of system of linear equations:

$$\{P_{N-1}(x_k) = f_k\}, \quad k = -\frac{N-1}{2}, \dots, \frac{N-1}{2} \tag{2}$$

Here are references to existing equations: (1), (2).
Here is reference to non-existing equation (??).

4) To modify size, colour, background or align simply add the corresponding attribute tag within the expression as arguments of `\quicklatex{}`.
See below to get a preview of how expressions appear within the blog.

```
\[
   \quicklatex{color="#00ff00" size=25}
   \boxed{f(x)=\int_1^{\infty}\frac{1}{x^2}\,\mathrm{d}x=1}
\]
```

$$\boxed{f(x) = \int_1^\infty \frac{1}{x^2}\,\mathrm{d}x = 1}$$

5) In order to create mathematical graphs, use `tikzpicture` and `pgfplots` within your expression. See below to get a preview of how expressions appear within the blog.

```
\begin{tikzpicture}
[+preamble]
   \usepackage{pgfplots}
   \pgfplotsset{compat=newest}
[/preamble]
   \begin{axis}
   \addplot3[surf,domain=0:360,samples=40] {cos(x)*cos(y)};
   \end{axis}
\end{tikzpicture}
```
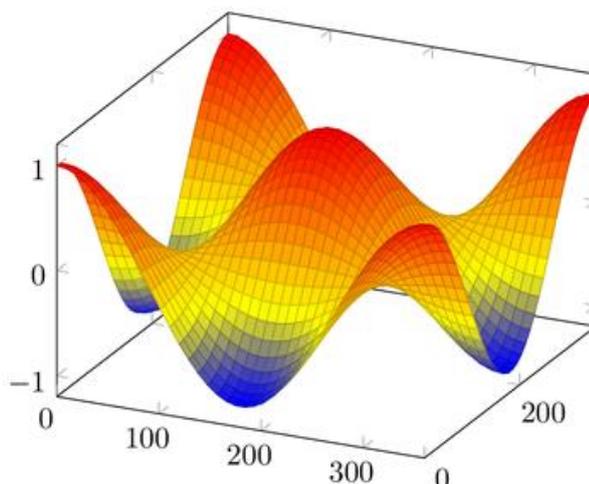
➔ Modifying your QuickLaTeX settings

1) Go to the **Basic Settings** in the overhead **QuickLaTeX** menu.

2) Here you fill find settings for size, colour, background colour, equation alignments and number position.

3) When you are happy with your modifications, remember to click on **Update QuickLaTeX Settings.**

4) Clicking on **Advanced** in your overhead menu will enable you to decide whether to use LaTex Syntax Sitewide or exclude $...$ in your expression to not confuse the non-mathematical user. If you decide to make any modifications, remember to click on **Update QuickLaTeX Settings.**

5) Settings found in System enable you to decide what format you want your images to appear as. If you decide to make any modifications, remember to click on **Update QuickLaTeX Settings.**