

# Embedding LaTeX Math in AsciiDoc dblettx documents

<b>REVISION HISTORY</b>
-------------------------

NUMBER	DATE	DESCRIPTION	NAME
8.6.7	17 March 2012		

---

## Contents

<b>1</b>	<b>Inline equations</b>	<b>1</b>
<b>2</b>	<b>Informal equations</b>	<b>1</b>
<b>3</b>	<b>Formal equations</b>	<b>1</b>

---

You can include LaTeX math equations in AsciiDoc documents that are processed by **dblettx**. The AsciiDoc *latexmath* macros and passthrough blocks generate DocBook *inlineequation*, *informalequation* and *equation* elements containing the LaTeX markup which is processed by *dblettx*.

## 1 Inline equations

This markup:

```
An inline equation latexmath:[ $C = \alpha + \beta Y^{\gamma} + \epsilon$ ]  
using the 'latexmath' inline macro.
```

Renders:

An inline equation  $C = \alpha + \beta Y^{\gamma} + \epsilon$  using the *latexmath* inline macro.

## 2 Informal equations

Informal (untitled) equations are generated with a *latexmath* style passthrough delimited block. This markup:

```
[latexmath]  
++++  
\[C = \alpha + \beta Y^{\gamma} + \epsilon\  
++++
```

Renders:

$$C = \alpha + \beta Y^{\gamma} + \epsilon$$

Functionally identical block macro syntax:

```
latexmath::\[C = \alpha + \beta Y^{\gamma} + \epsilon\]
```

Renders:

$$C = \alpha + \beta Y^{\gamma} + \epsilon$$

## 3 Formal equations

Formal equations are titled and are generated with a *latexmath* style passthrough delimited block.

This markup:

```
.First equation  
[latexmath]  
++++  
\[C = \alpha + \beta Y^{\gamma} + \epsilon\  
++++
```

Renders:

$$C = \alpha + \beta Y^{\gamma} + \epsilon$$

EQUATION 3.1: First equation

This markup:

```
.Matrix
[latexmath]
+++++
\[ P^{e \rightarrow c} = \left[
  \begin{array}{*{3}{r@{}l}}
    & \cos \theta & & \sin \theta \sin \varphi & & \sin \theta \cos \varphi \\
    & \sin \theta \sin \psi & & \cos \varphi \cos \psi - \cos \theta \sin \varphi \sin \psi & & -\sin \varphi \cos \psi - \cos \theta \cos \varphi \sin \psi \\
    & -\sin \theta \cos \psi & & \cos \varphi \sin \psi + \cos \theta \sin \varphi \cos \psi & & -\sin \varphi \sin \psi + \cos \theta \cos \varphi \cos \psi
  \end{array}
\right]
```

Renders:

$$P^{e \rightarrow c} = \begin{bmatrix} \cos \theta & \sin \theta \sin \varphi & \sin \theta \cos \varphi \\ \sin \theta \sin \psi & \cos \varphi \cos \psi - \cos \theta \sin \varphi \sin \psi & -\sin \varphi \cos \psi - \cos \theta \cos \varphi \sin \psi \\ -\sin \theta \cos \psi & \cos \varphi \sin \psi + \cos \theta \sin \varphi \cos \psi & -\sin \varphi \sin \psi + \cos \theta \cos \varphi \cos \psi \end{bmatrix}$$

EQUATION 3.2: Matrix