\documentclass{article}

\usepackage{amsmath}

\begin{document}

\begin{equation\*}

Vload(t)= Vl(t)+Vr(t)

\end{equation\*}

\begin{equation\*}

$\frac{1}{T}\int\_{0}^{T} Vload(t) dt$ = $\frac{1}{T}\int\_{0}^{T} Vl(t) dt$ + $\frac{1}{T}\int\_{0}^{T} Vr(t) dt$

\end{equation\*}

\begin{equation\*}

Vd= $\frac{1}{T}\int\_{0}^{T} Vr(t) dt$

\end{equation\*}

\begin{equation\*}

Vd= $R\frac{1}{T}\int\_{0}^{T} Iload(t) dt$

\end{equation\*}

\begin{equation\*}

Id= $\frac{1}{T}\int\_{0}^{T} Iload(t) dt$

\end{equation\*}

\begin{equation\*}

Vd=Id\*R

\end{equation\*}

\begin{equation\*}

Vd= $\frac{1}{\pi}\int\_{\alpha+u}^{\alpha+u+\pi} (\sqrt(2)\*Vs \sin(wt) d(wt))$

\end{equation\*}

\begin{equation\*}

Vd= $\frac {(2\*\sqrt(2)\*Vs)}{\pi}\* \cos(\alpha+u)

\end{equation\*}

\begin{equation\*}

$\int\_{\alpha}^{\alpha+u} (\sqrt(2)\*Vs \sin(wt) d(wt))$ = 2\omega\* Ls \*Id

\end{equation\*}

\begin{equation\*}

$\cos(\alpha+u) = \cos(\alpha) - $$\frac { 2\omega\* Ls\*Id} {\sqrt(2)\*Vs}

\end{equation\*}

\begin{equation\*}

Vd= $\frac {(2\sqrt(2)\*Vs)}{\pi}\* [ \cos(\alpha+u) - $$\frac { 2\omega\* Ls\*Id} {\sqrt(2)\*Vs}]

\end{equation\*}

\begin{equation\*}

Vd= $\frac{1}{\pi}\int\_{\alpha+u}^{\pi} (\sqrt(2)\*Vs \sin(wt) d(wt))$

\end{equation\*}

\begin{equation\*}

Vd= $\frac {(\sqrt(2)\*Vs)}{\pi}\* (1+\cos(\alpha+u))

\end{equation\*}

\begin{equation\*}

$\int\_{\alpha}^{\alpha+u} (\sqrt(2)\*Vs \sin(wt) d(wt))$ = \omega\* Ls \*Id

\end{equation\*}

\begin{equation\*}

$\cos(\alpha+u) = \cos(\alpha) - $$\frac { \omega\* Ls\*Id} {\sqrt(2)\*Vs}

\end{equation\*}

\begin{equation\*}

Vd= $\frac {(\sqrt(2)\*Vs)}{\pi}\* [ 1+ \cos(\alpha+u) - $$\frac { 2\omega\* Ls\*Id} {\sqrt(2)\*Vs}]

\end{equation\*}

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