Session 12

Electronics

Utility Applications of Power

ECE 529
map to \( M \) = \( M \circ (\circ + \circ) \)

Currents - Similar next time.

\[
\frac{\dot{V}}{Vc} = (2d - 1) \frac{V}{Vc}
\]

\[
\frac{\dot{V}}{Vc} = \frac{\dot{V}}{Vc} \cdot \frac{V}{Vc} = \frac{V}{Vc} \cdot \frac{V}{Vc}
\]

\[
V_{4+} = V(21) + V(51)
\]

\[
\frac{\dot{V}}{Vc} = \frac{\dot{V}}{Vc} \cdot \frac{V}{Vc}
\]

Because of \( \frac{\dot{V}}{Vc} \).
\[ S_u \text{ closed} \]
\[ S_v \text{ closed} \]

\[ \begin{align*}
    I_v &= (I_1 - L_1) \frac{v_1}{r_1} \\
    I_p &= d - i_A \\
    I_n &= 0
\end{align*} \]
\[ P_{oc} = \sqrt{\frac{2}{\mu c}} \left( \left( 1 - \frac{1}{\mu c} \right) \sqrt{\frac{2}{\mu c}} - \frac{1}{\mu c} \right) \]

If we ignore converter switching/convolution losses, "\( P_{oc} \) at "P_{in} = \text{"Pac"}" + \text{"Pac"} = \text{"Pac"}" + \text{"Pac"}"
my input $\frac{V_i}{V_o} = 1 \text{ at} \ 0$

$\text{Change dc current}$

system to change LA $\text{L}_{\text{in}}$.$ \text{L}_\text{out}$ relationship to external AC

controlling converter

this relationship
- non-switching model needs to capture

AC vs DC quantities
- shows relationship between
Period of the full cycle of θ:

\[ \text{Period} = \text{cycles} \times \text{frequency} \]

\[ M_{\theta}(t) = (2 - D - 1) \]

\[ \text{Modulation function (M(t))} \]

\[ \text{Wave} \]

\[ \text{Defining angle} \]

\[ \text{Wave} \]

\[ \text{Modulation function} \]
\[ V_{in} = \frac{2}{(1 - \omega)} C_{eq} \]

\[ I_{in} = \left( \frac{2}{1 + \omega} \right) I_{eq} \]

\[ I_{eq} = \frac{Z_{eq}}{V_{in}} \]

\[ I_{eq} = \frac{2}{V_{in}} \]
Create sinusoidal m(t) function