Output Plane

![Graph showing output plane with curves labeled for different values of F.](image-url)
Frequency Modulation

Issues with k=1 CCM

$M = \frac{1}{2}$
$F = 0.69$
Mode Boundary

\[ M = 1 \]
\[ F = 0.7 \]
Mode Boundary

\[ M = \frac{1}{2} \]
\[ F = \frac{1}{2} \]

Discontinuous Conduction Modes

In the “type k” discontinuous conduction mode, the tank rings through \( k \) complete half cycles during each half switching period. The output diode rectifiers then become reverse-biased, and remain off until the input bridge transistors switch to initiate the next half switching period.
The $k = 1$ DCM

Why DCM Occurs
Summary of results $k = 1$ DCM
State Plane Diagram \( k = 2 \) DCM