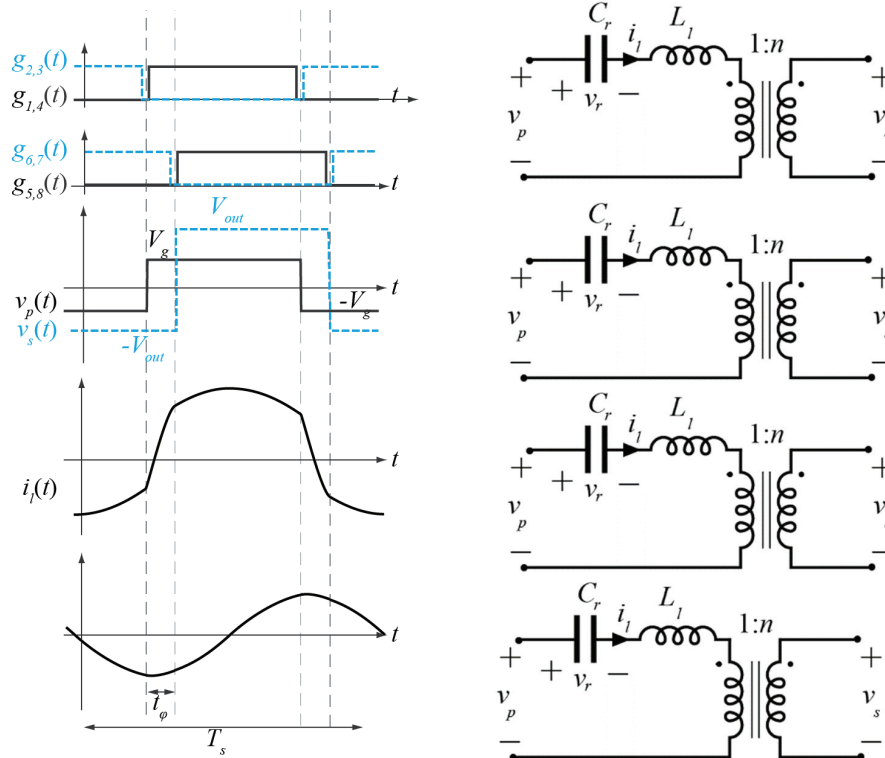
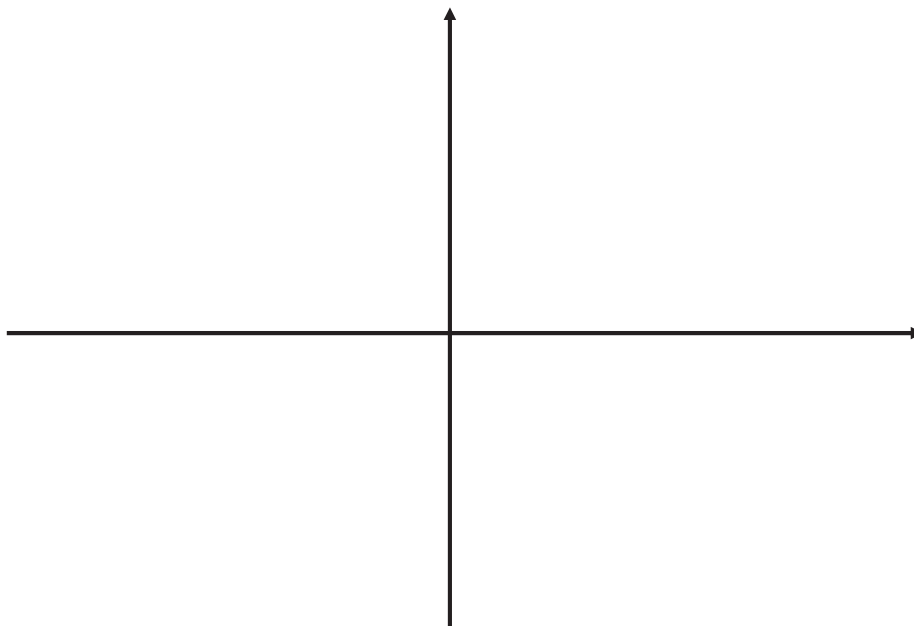


# Subinterval Equivalent Circuits



## Complete State Plane – Phase Shift Modulation

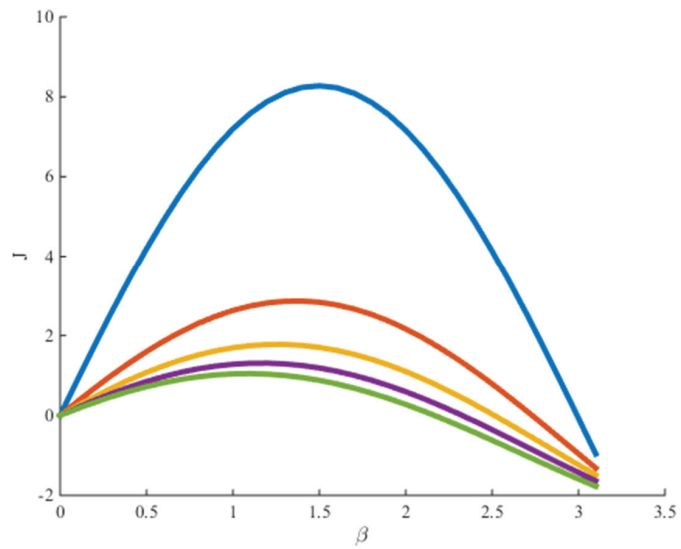


# State Plane Solution

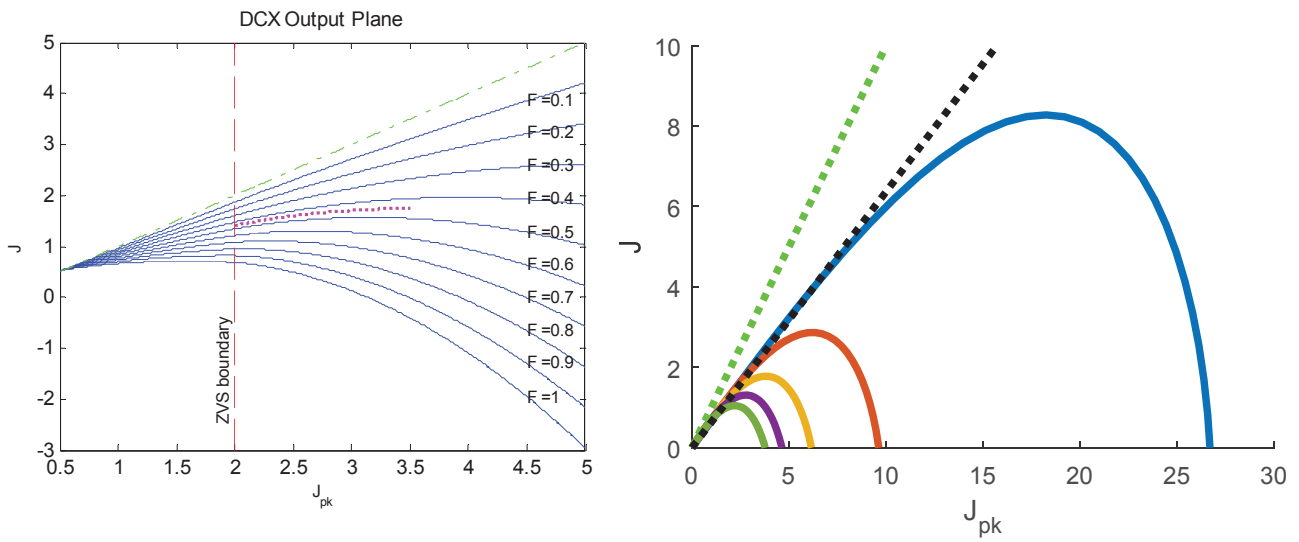
## Averaging Step

# Complete Solution

## SRC Control Trajectory

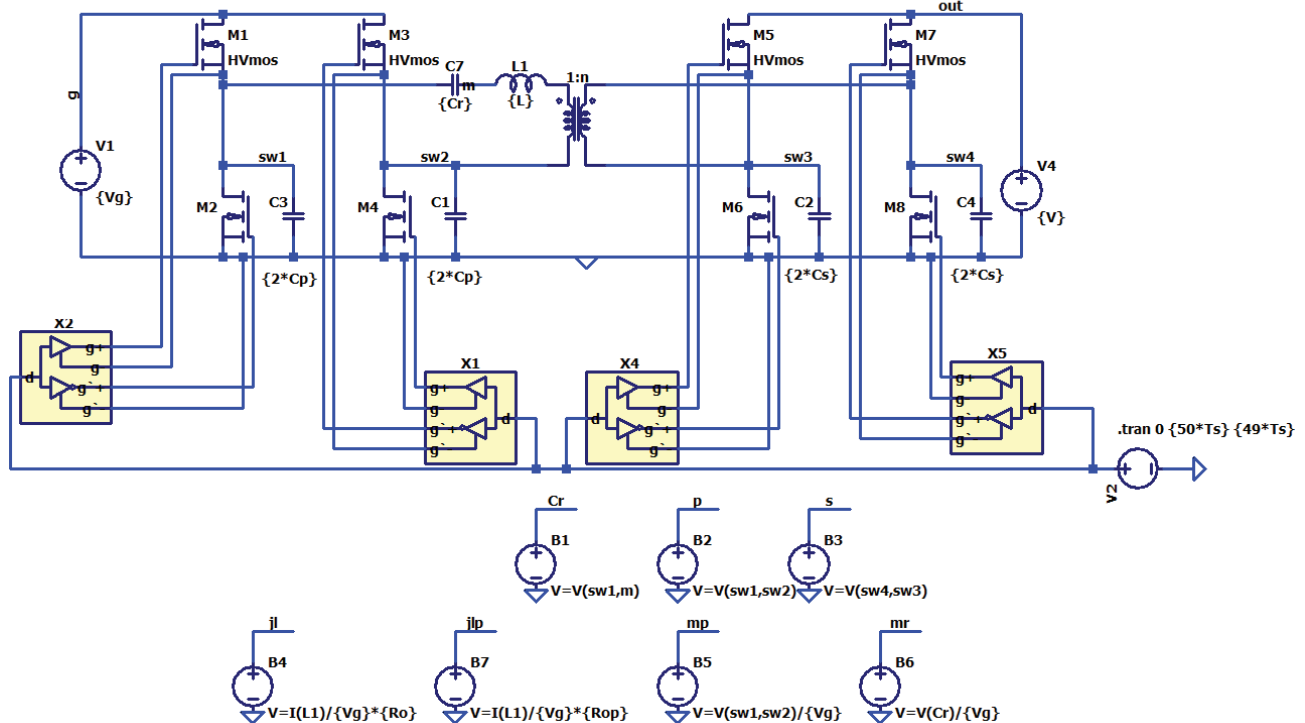


# SRC Current Stress



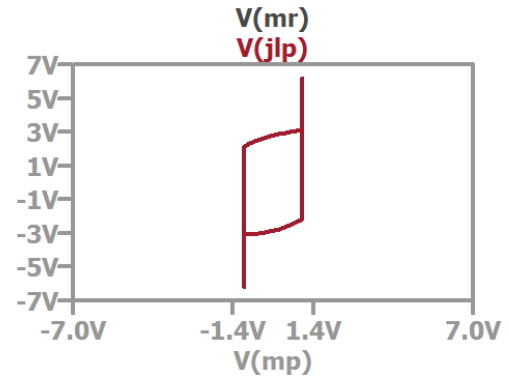
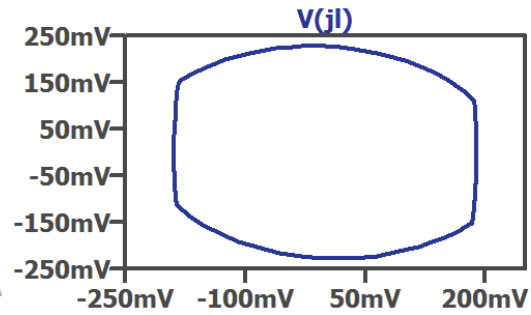
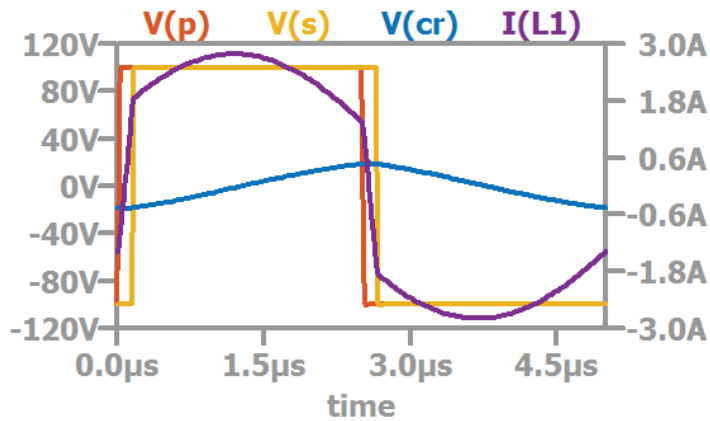
## Example Simulation

.param Cr={150n} Ro={{(L/Cr)\*\*.5} td=70n phi={Ts/2+150n} Rop={{(L/Cp)\*\*.5}  
.param fs=750k Ts={1/fs} Vg=100 V={Vg} C={100u} Cp=200p Cs={Cp} L={10u}



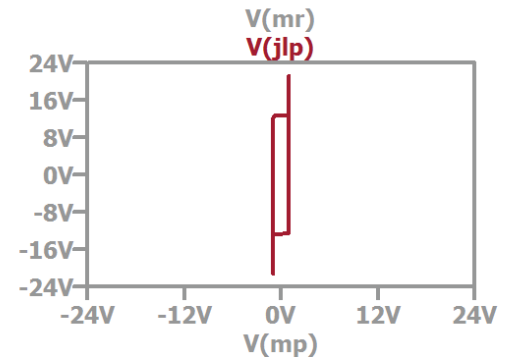
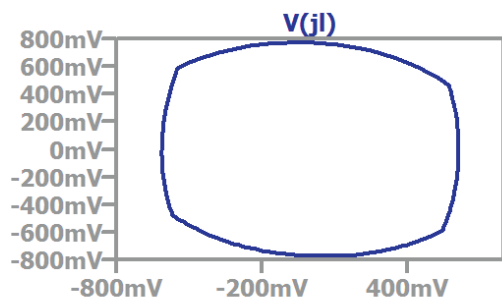
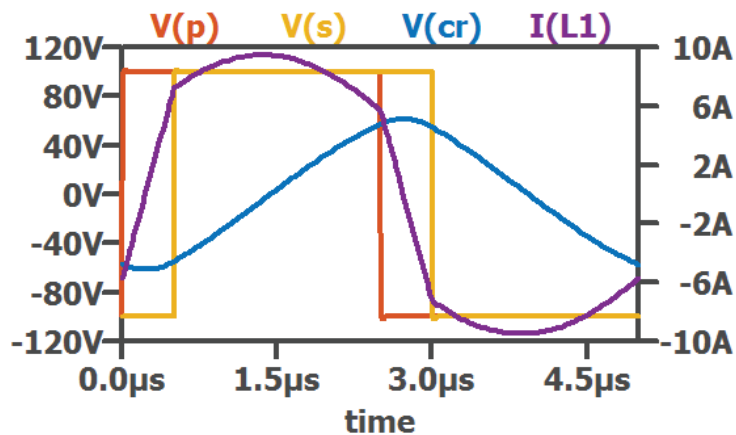
# SRC Simulation

$I_{out} = 2A$   
 $f_s = 200kHz$   
 $f_o = 130kHz$   
 $V_g = 100V$   
 $V_{out} = 100V$



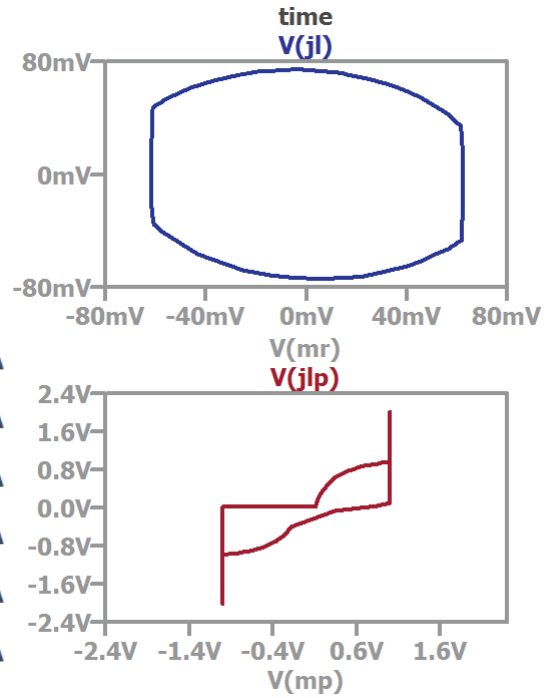
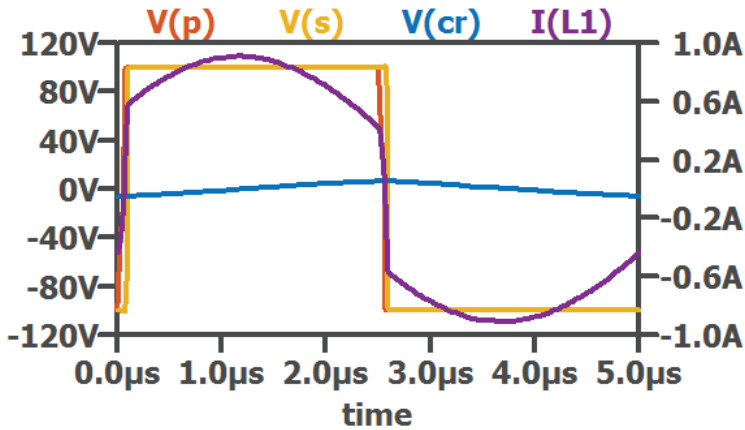
# SRC Simulation

$I_{out} = 6.5A$   
 $f_s = 200kHz$   
 $f_o = 130kHz$   
 $V_g = 100V$   
 $V_{out} = 100V$



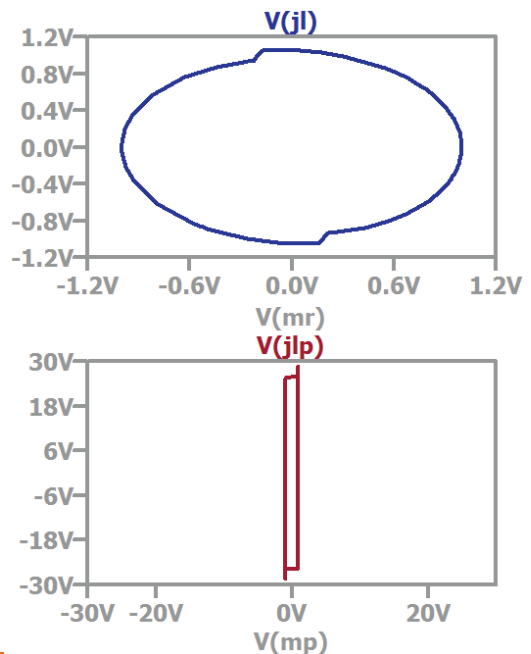
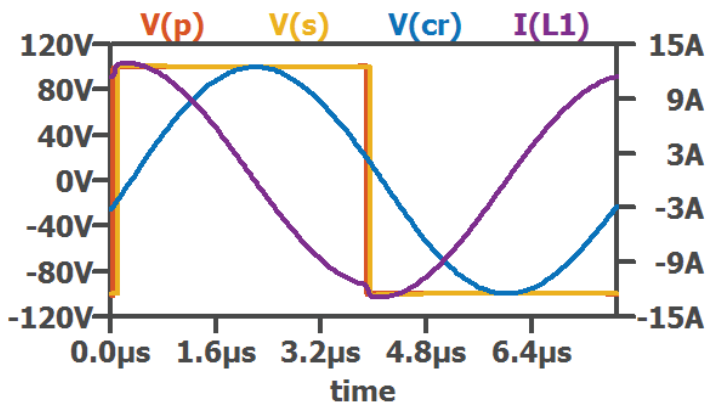
# SRC Simulation

$I_{out} = 500\text{mA}$   
 $f_s = 200\text{kHz}$   
 $f_o = 130\text{kHz}$   
 $V_g = 100\text{V}$   
 $V_{out} = 100\text{V}$



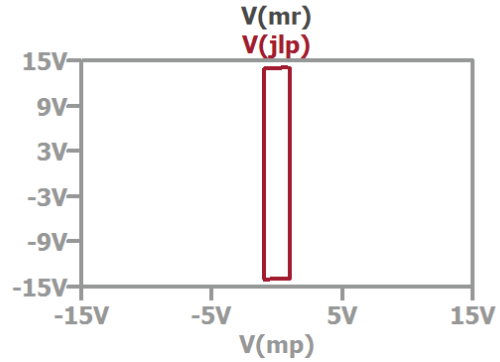
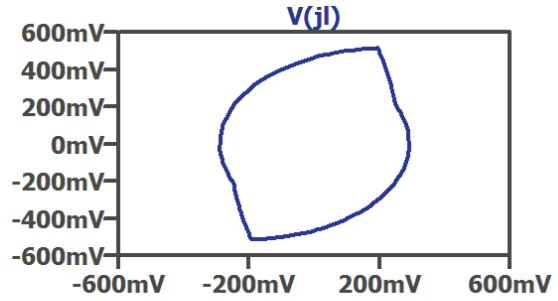
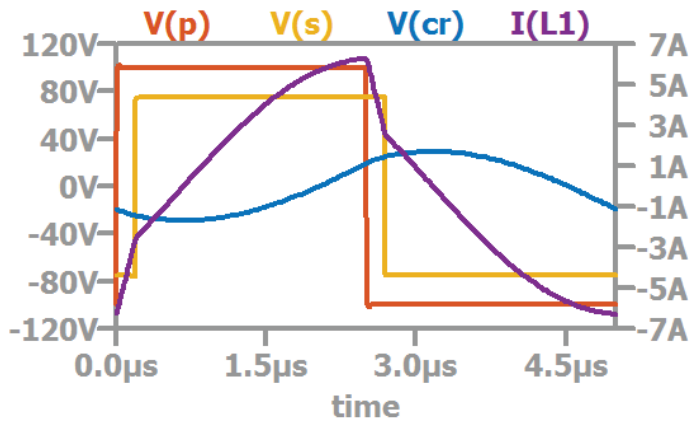
# SRC Simulation

$I_{out} = 1.2\text{A}$   
 $f_s = 130\text{kHz}$   
 $f_o = 130\text{kHz}$   
 $V_g = 100\text{V}$   
 $V_{out} = 100\text{V}$



# SRC Simulation

$I_{out} = 3A$   
 $f_s = 200kHz$   
 $f_o = 130kHz$   
 $V_g = 100V$   
 $V_{out} = 75V$



# SRC Simulation

$I_{out} = 1A$   
 $f_s = 750kHz$   
 $f_o = 130kHz$   
 $V_g = 100V$   
 $V_{out} = 100V$

