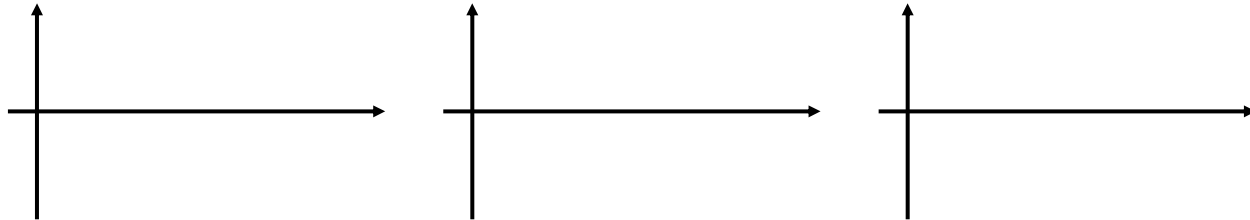
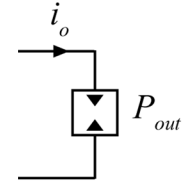
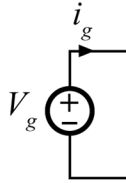
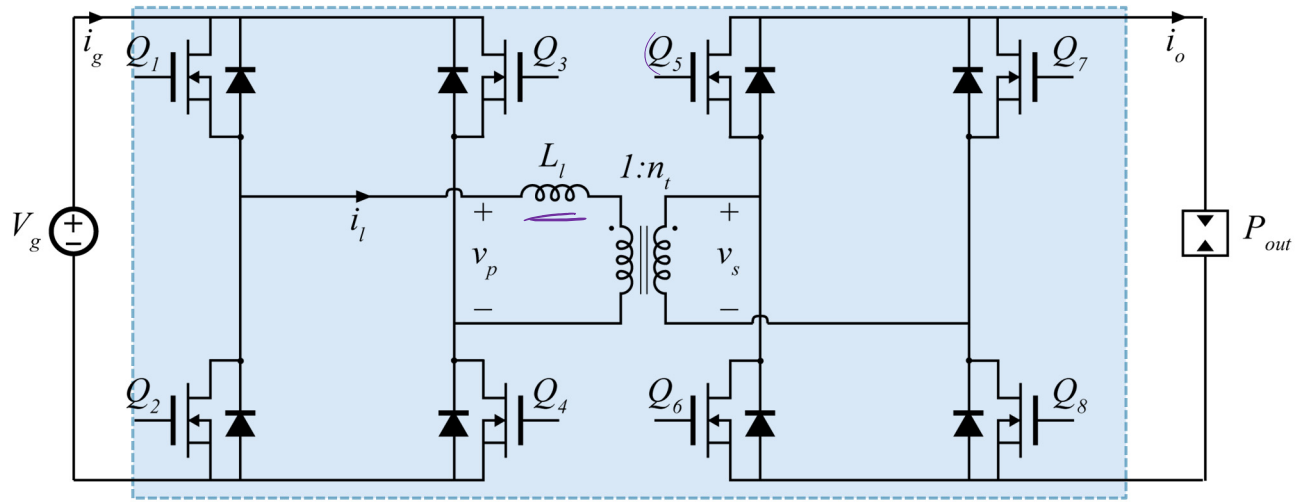


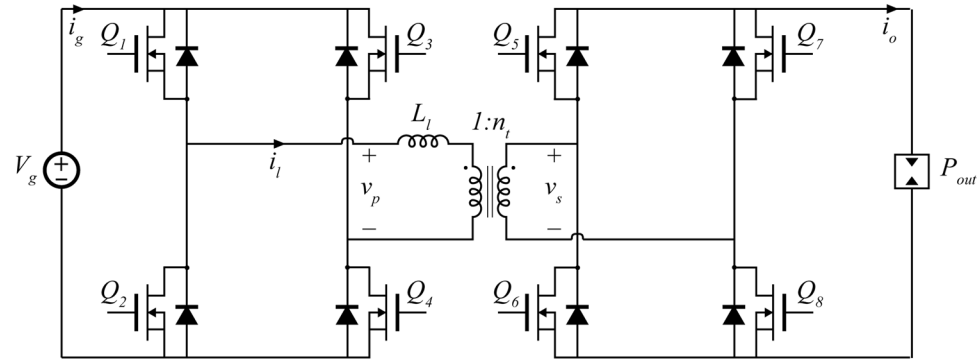
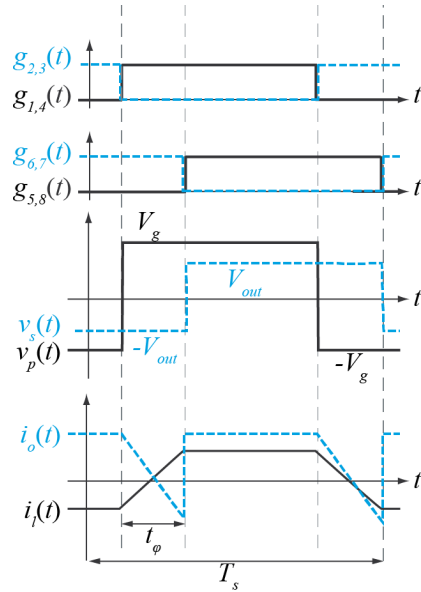
DC-Transformer (DCX)



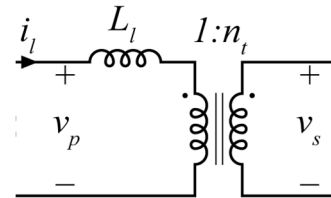
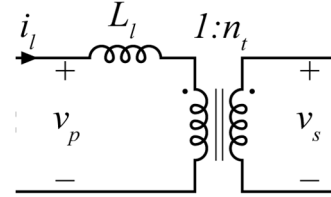
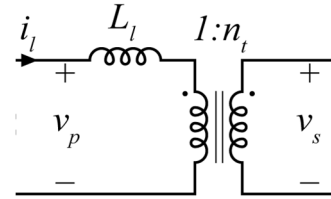
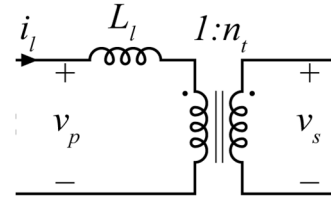
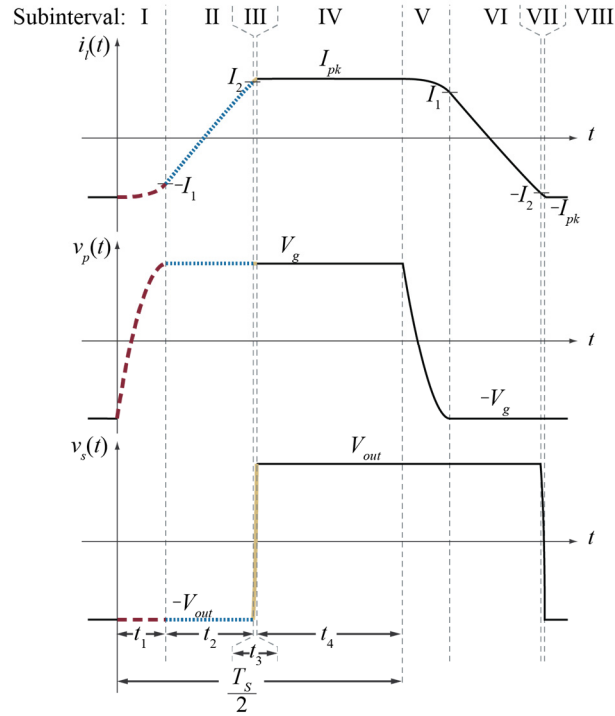
Dual Active Bridge



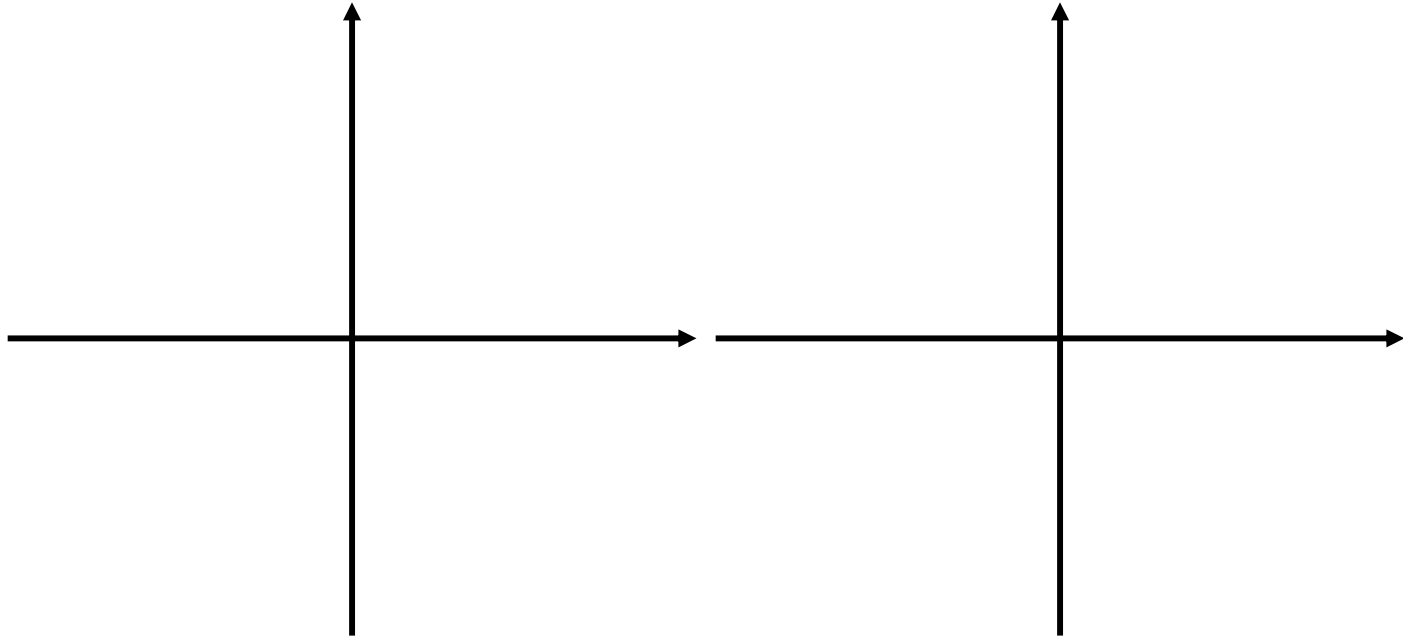
Switching Behavior (PSM)



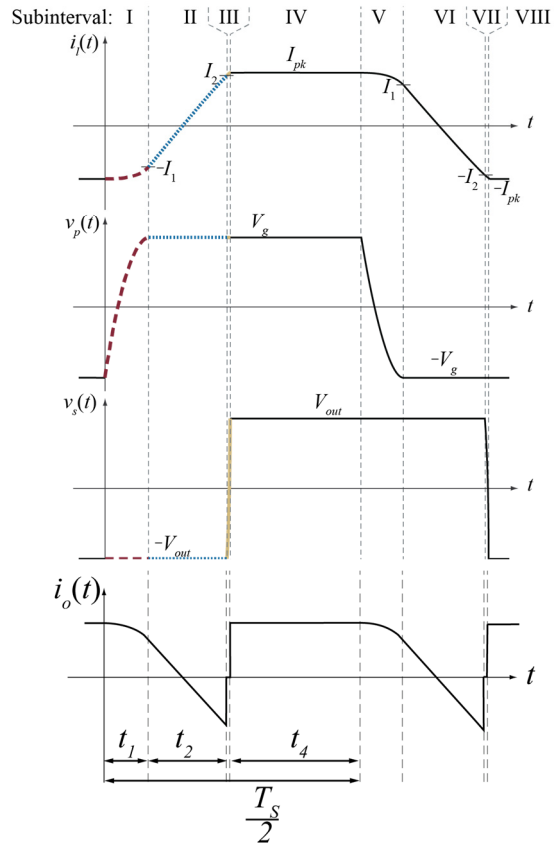
DAB Operation Analysis



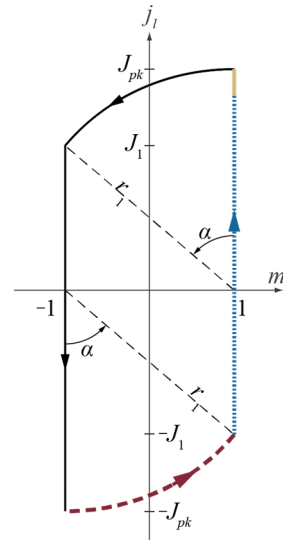
DAB State Plane



State Plane Analysis of DAB Converter

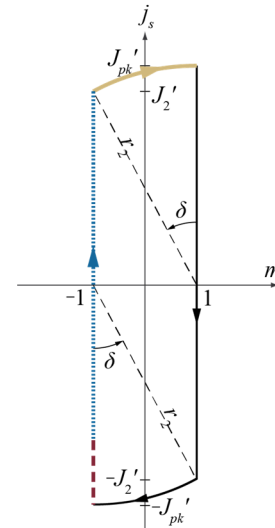


Primary



$$I_{base} = V_g \sqrt{\frac{C_p}{L_l}}$$

Secondary

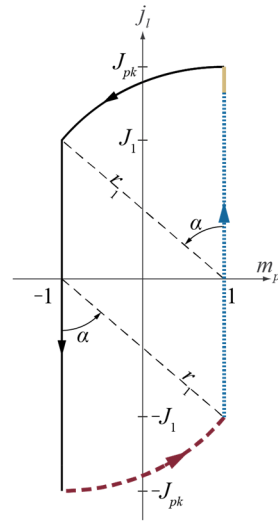


$$I_{base} = V_g \sqrt{\frac{C_s}{n_t^2 L_l}}$$

ZVS Condition

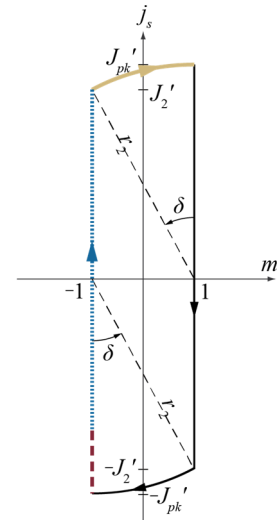
State Plane Solution

Primary



$$I_{base} = V_g \sqrt{\frac{C_p}{L_l}}$$

Secondary



$$I_{base} = V_g \sqrt{\frac{C_s}{n_t^2 L_l}}$$

Averaging Step

