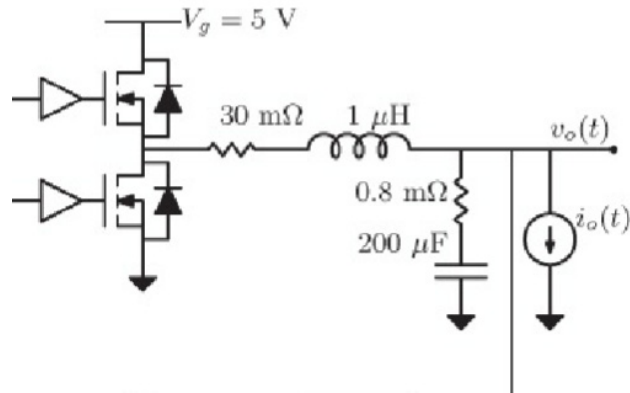
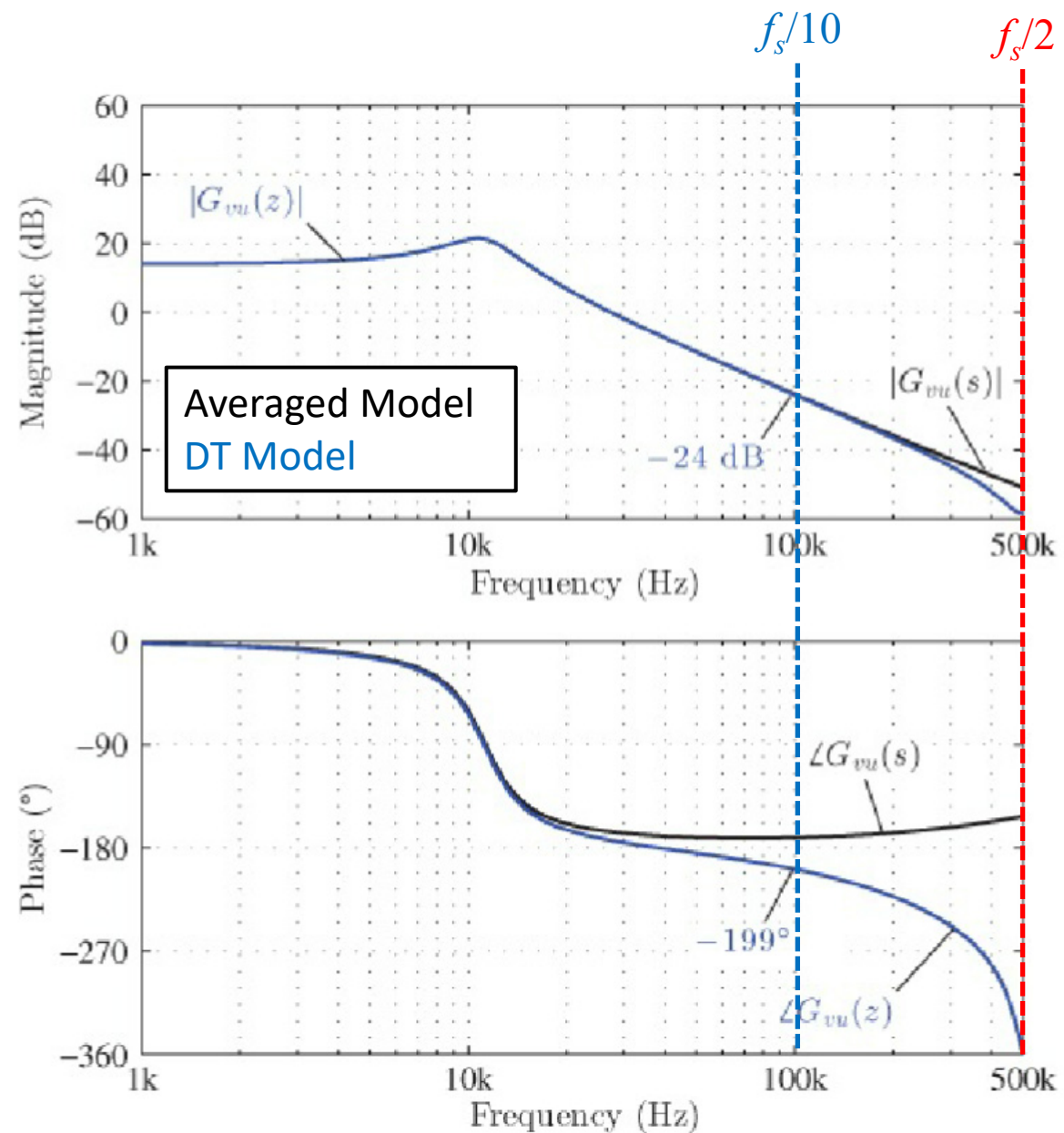


Example Results

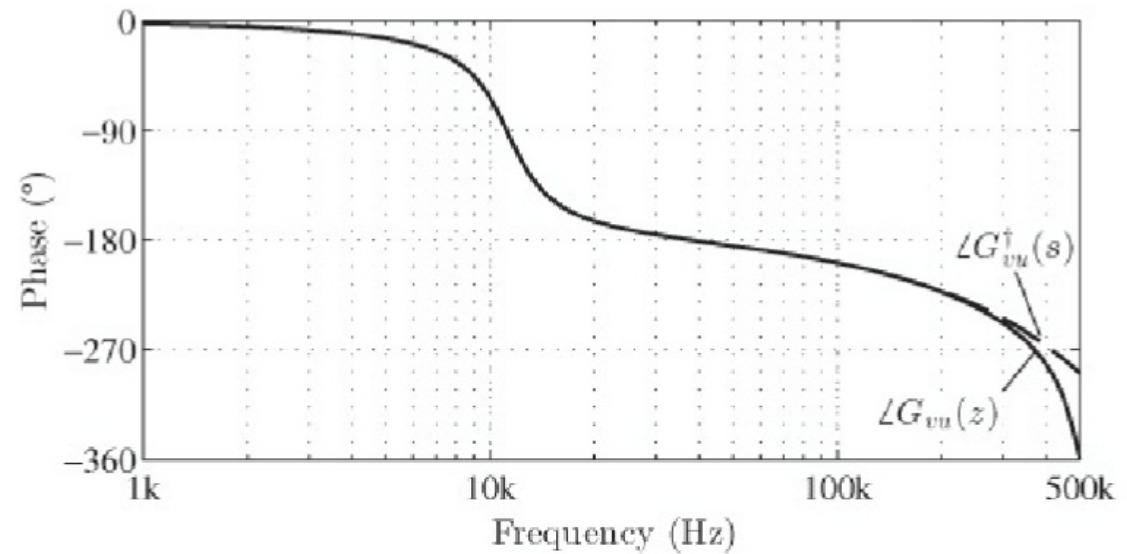
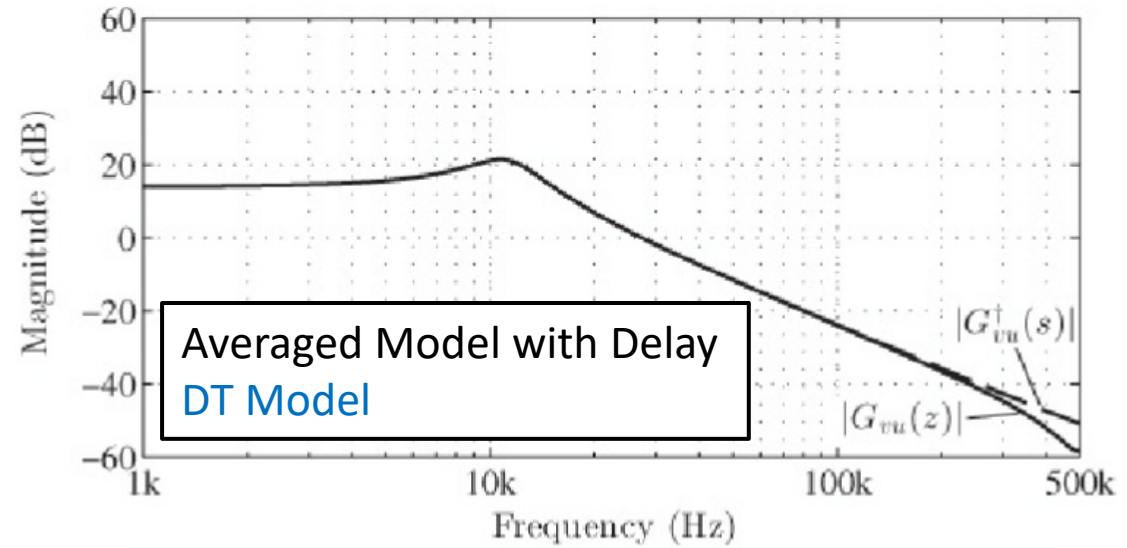


* Includes $t_d=760\text{ns}$ of delay in feedback loop

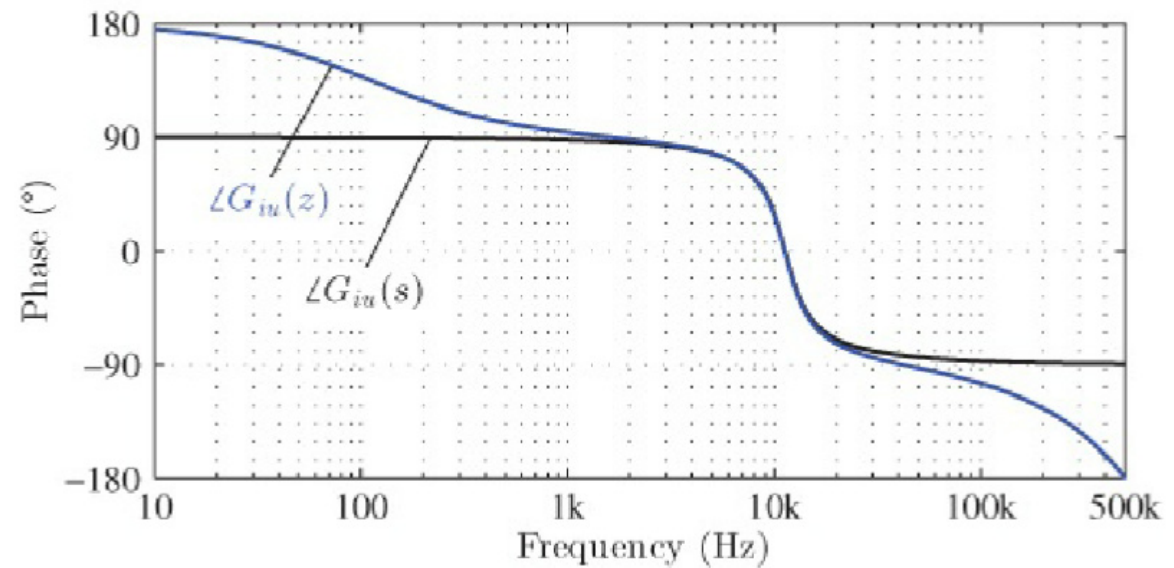
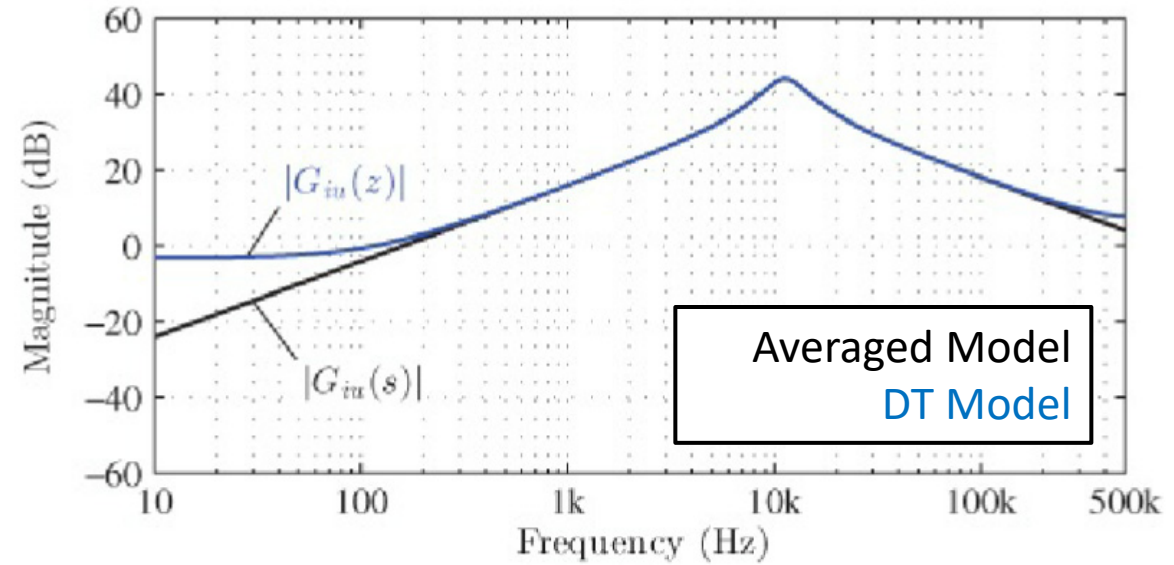
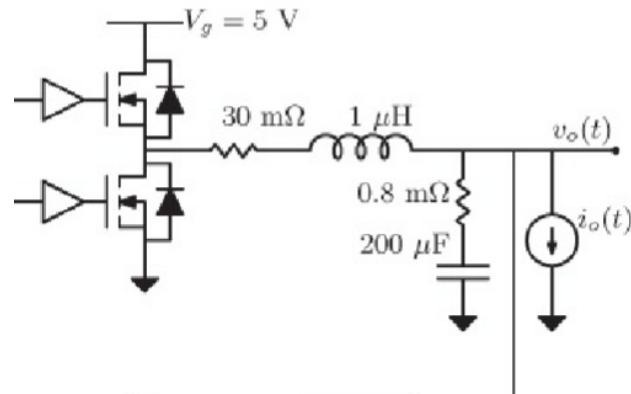


Inclusion of Delay

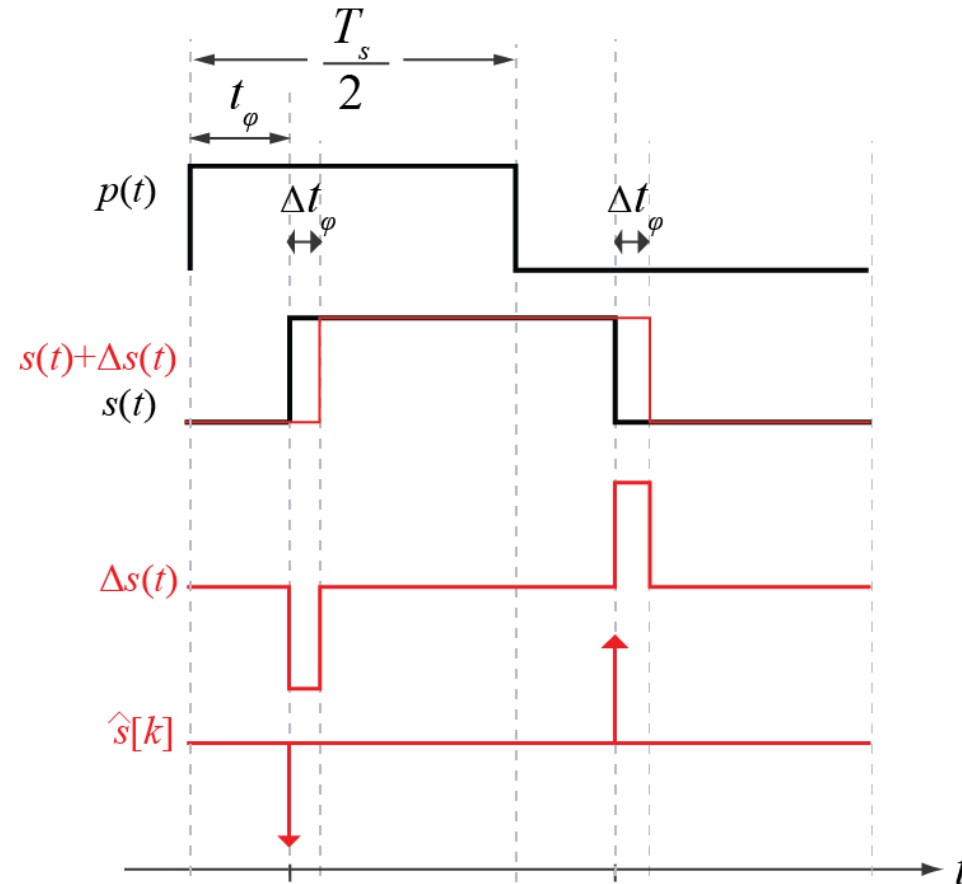
$$G_{vu}^+(s) = G_{vu}(s)e^{-std}$$



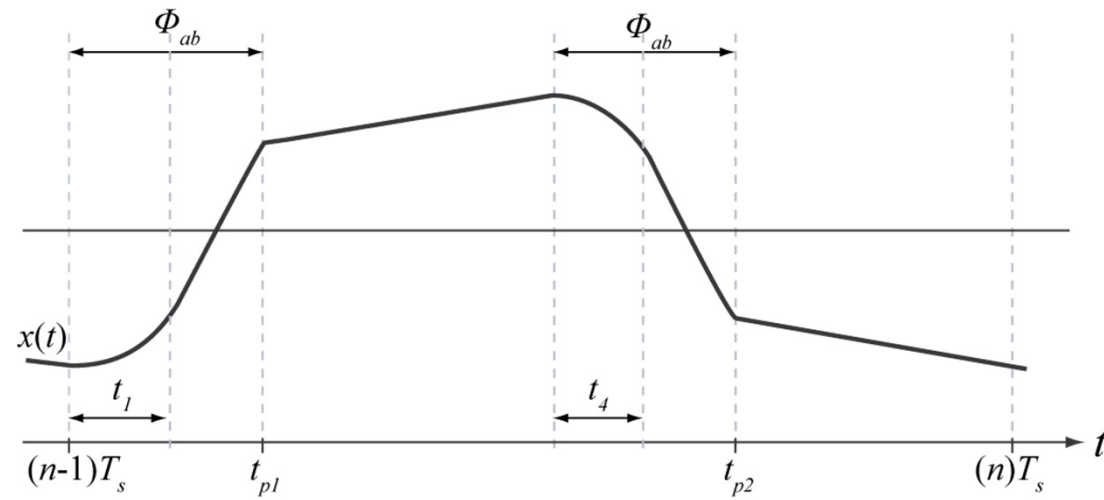
Current Control



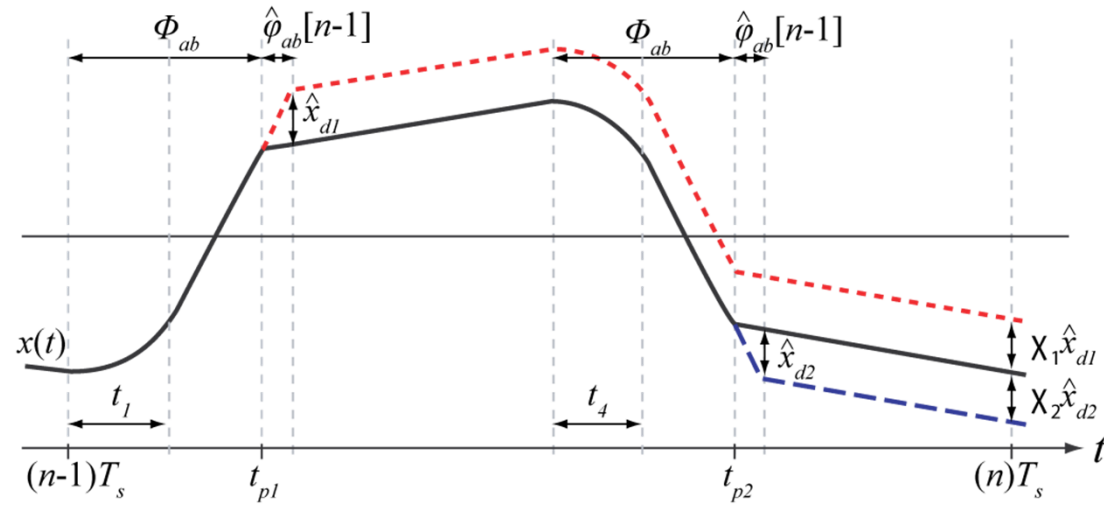
Example: Phase Shift Modulation



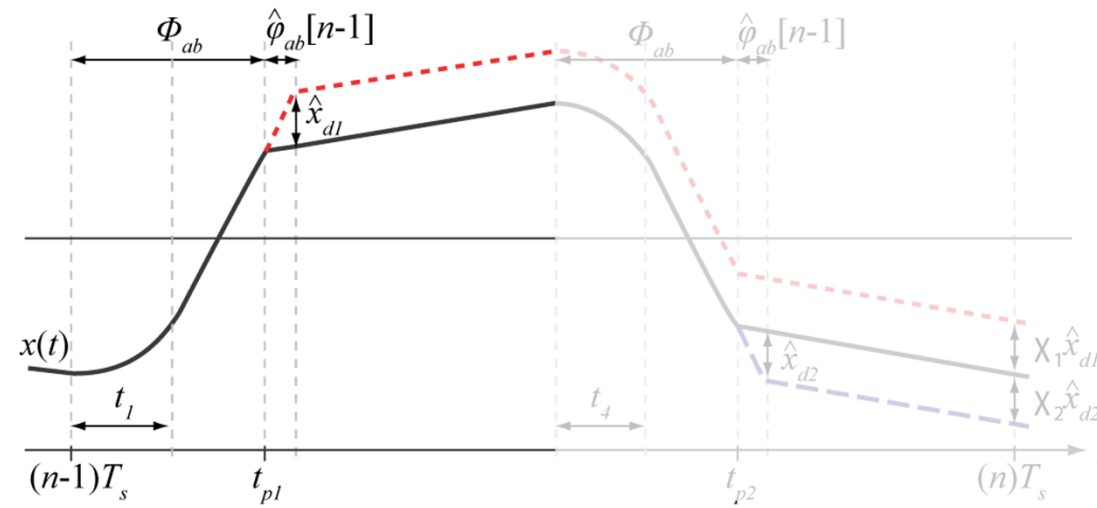
Dual Perturbation



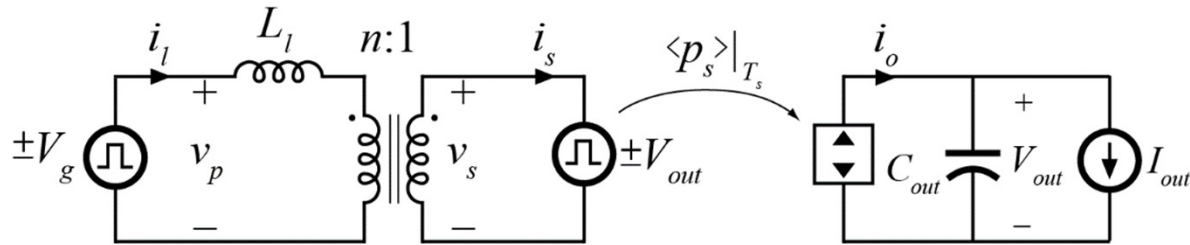
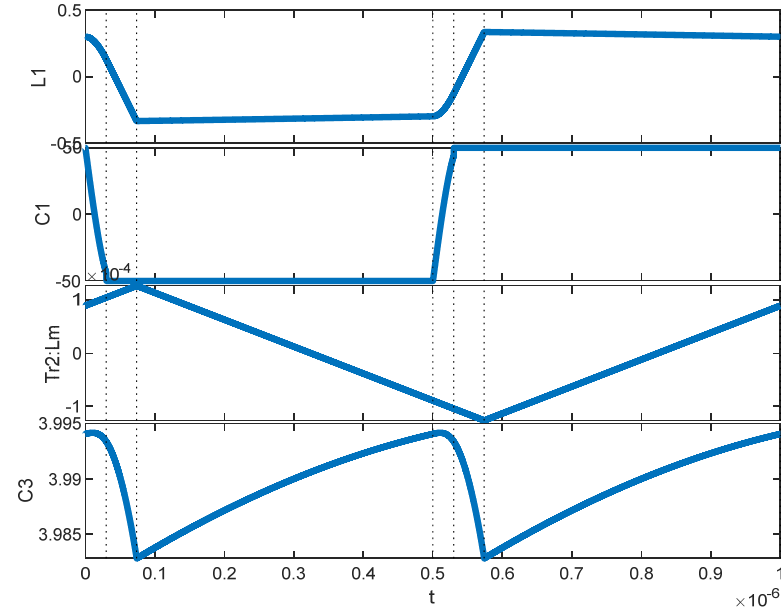
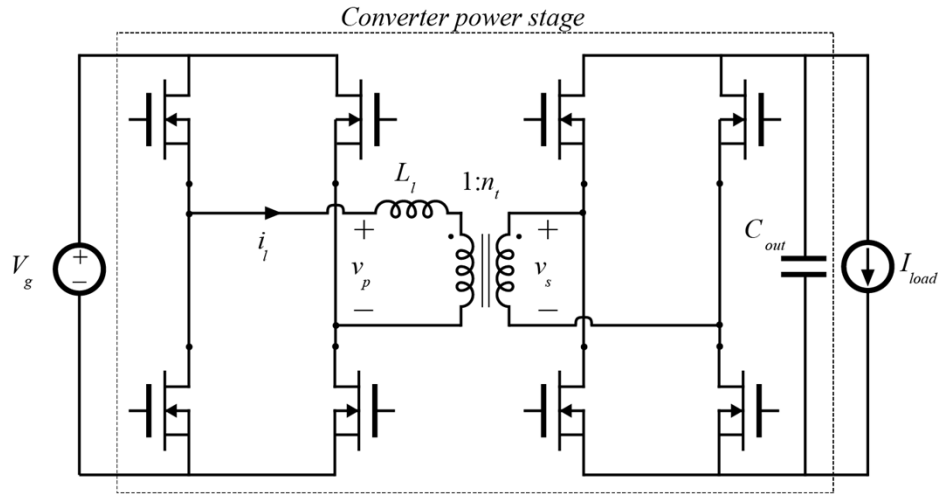
Dual Perturbation



Half-Cycle Model



Example: Introductory DAB



$$\langle i_o \rangle |_{T_s} = \frac{nV_g}{L_l T_s} (T_s t_\phi - 2t_\phi^2)$$

Parameter	Value
V_g	50 V
V_{out}	4 V
I_{load}	3.5 A
C_{out}	20 μ F
L_l	9.5 μ H
n_t	25:2
f_s	1 MHz
η_{pk}	97%

DAB Transfer Function Comparison

```
Gvphi = ss(PHI, GAMMA, C, 0, Ts);  
bode(Gvphi);
```

or

```
z = tf('z', Ts);  
Gvphi = C*(z*eye(ns) - PHI)^- GAMMA;  
bode(Gvphi);
```

