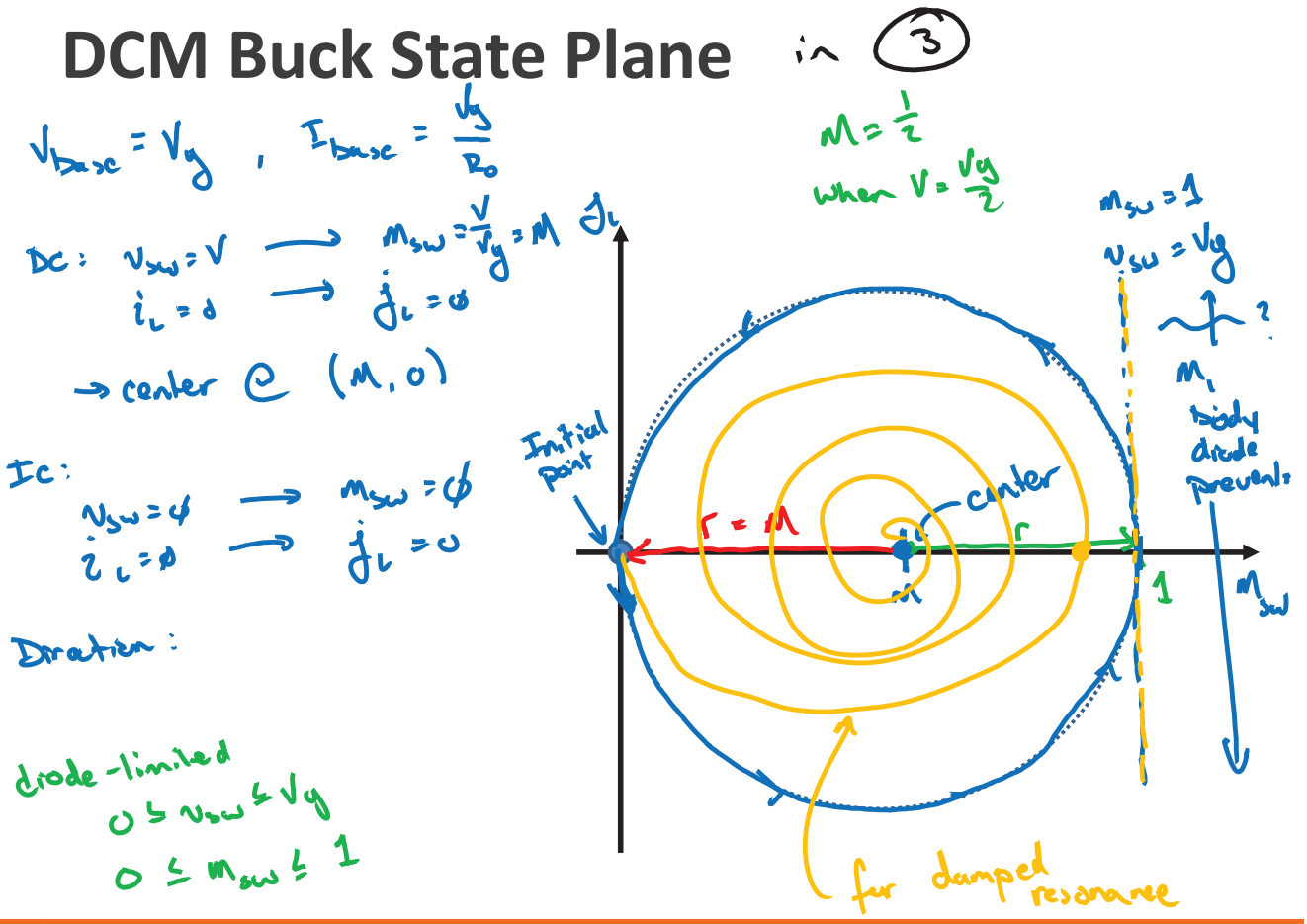
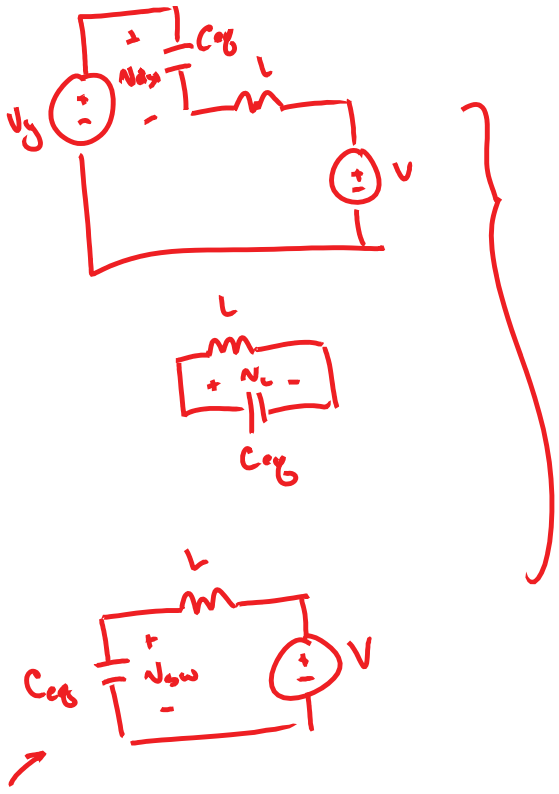
DCM Buck State Plane



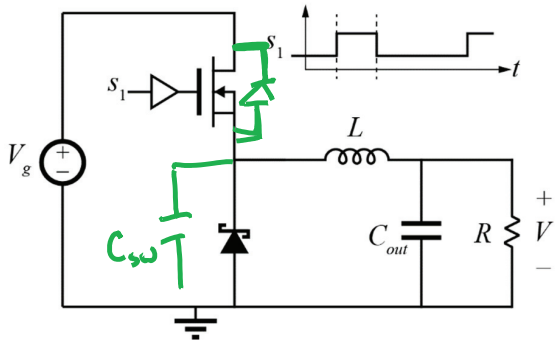
Choosing Equivalent Circuit

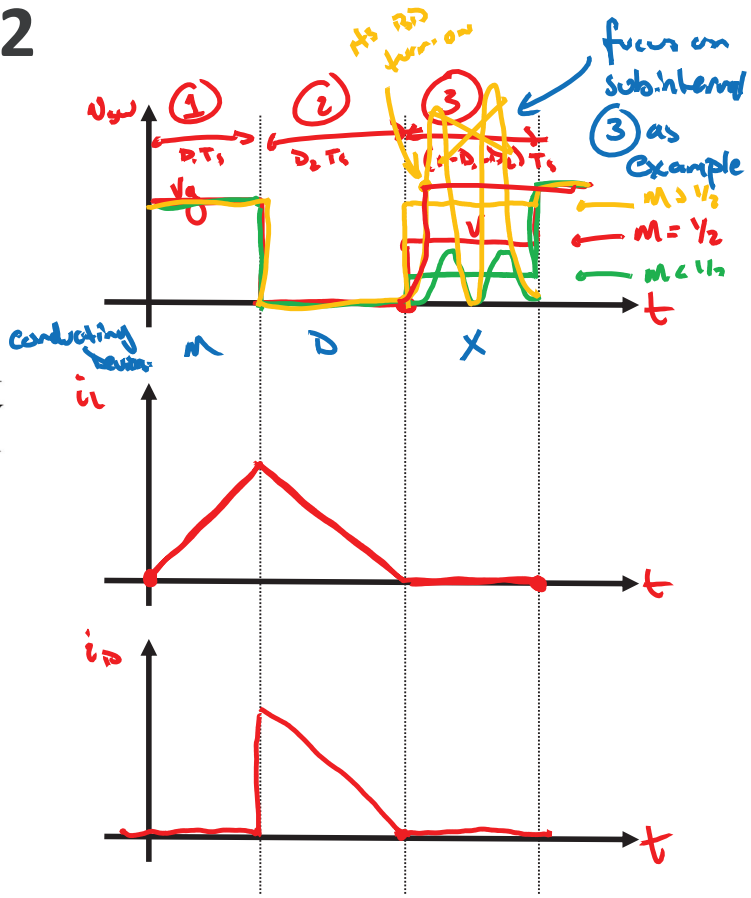


All fine, but state plane volteges will vary

$C_{eq} \equiv C_{sw}$

DCM Buck M≠1/2





DCM Buck State Plane (M>.5)

ZVS condition:

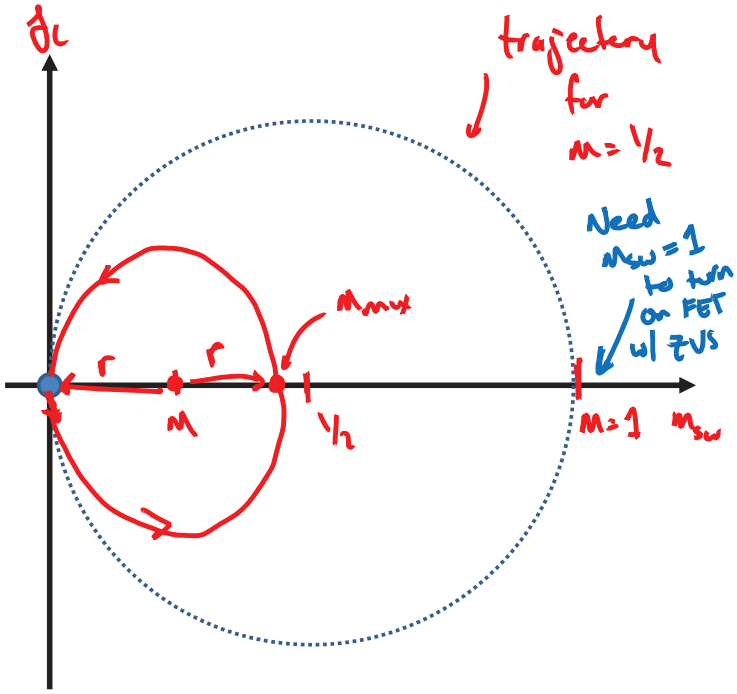
Need $M_{max} \geq 1$

$M_{max} = M + r$

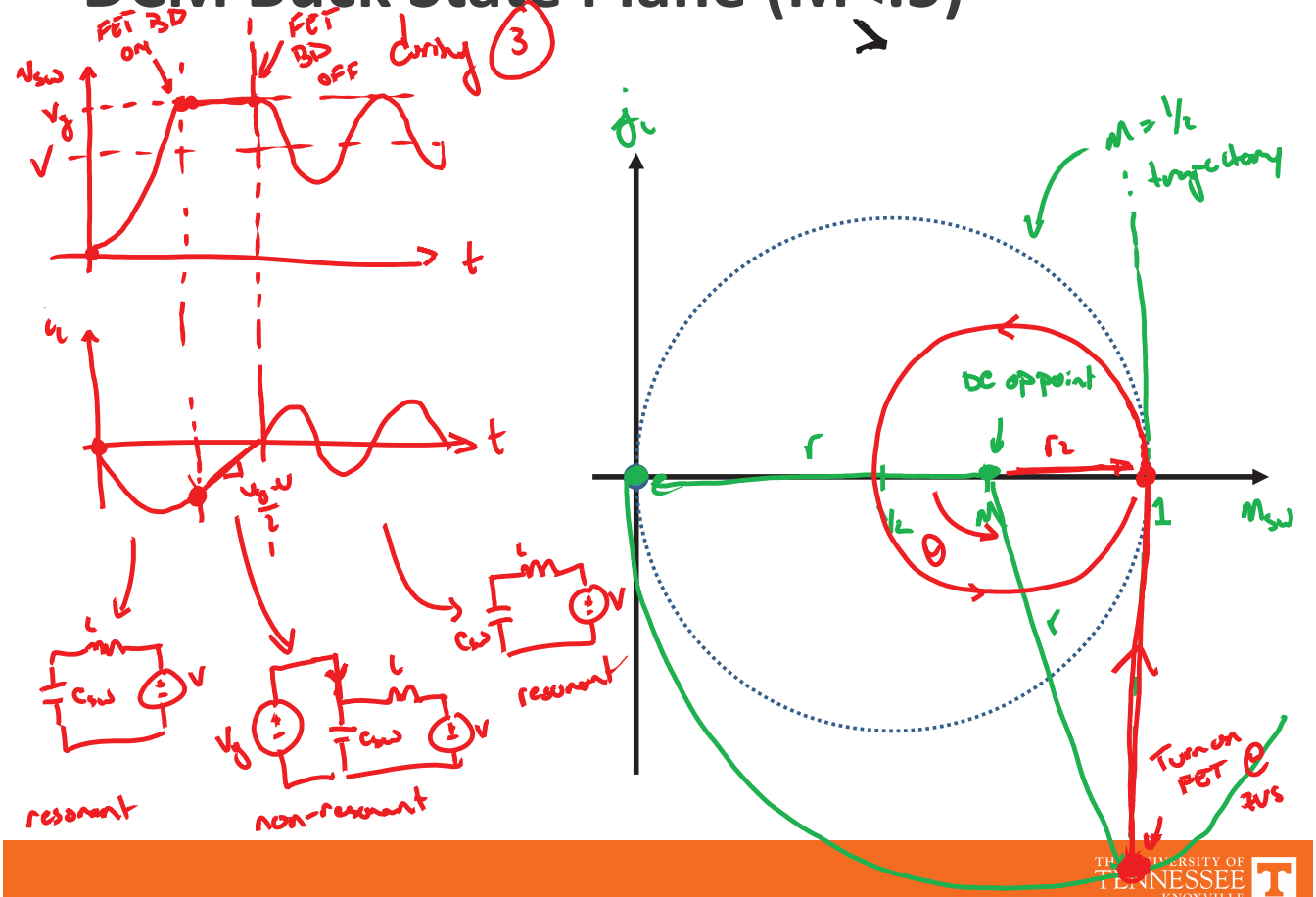
$r = M$

$M_{max} = 2M$

$2M \geq 1$



DCM Buck State Plane (M<.5)



Synchronous Buck Converter

CRM Critical BCM boundary TCM Triangular