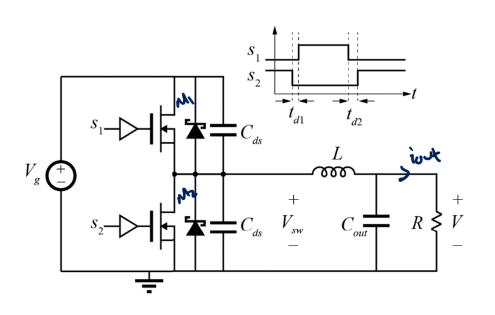
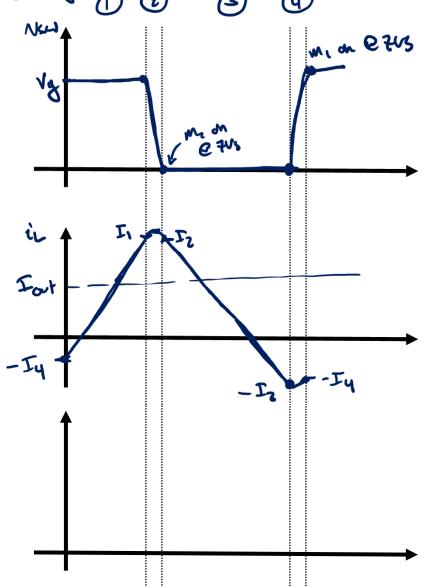
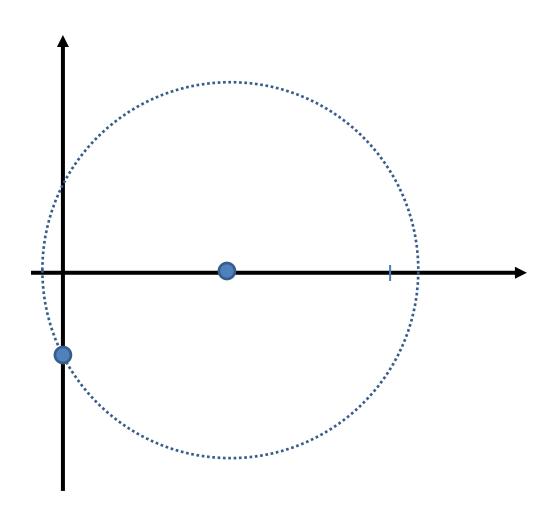
Synchronous Buck Converter N X M X if Mall



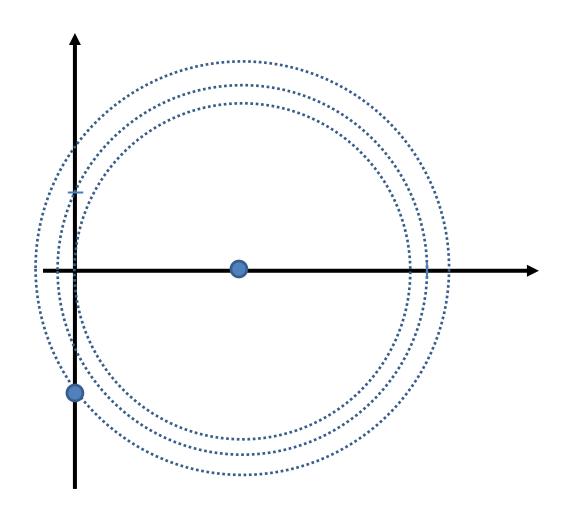


# **Sync-Buck State Plane**



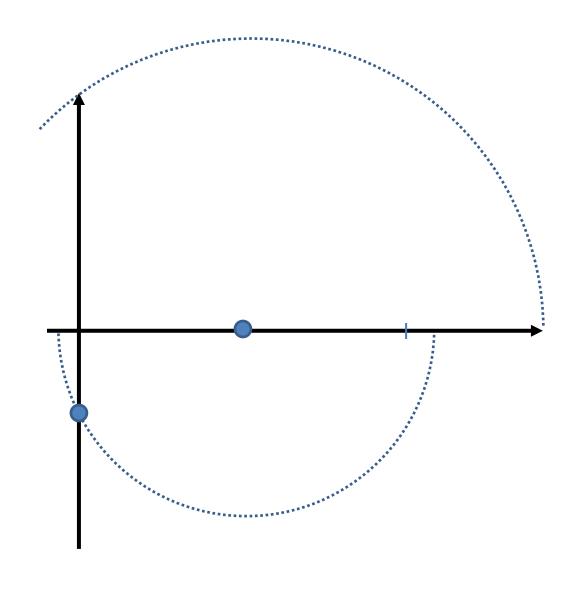
# **Sync-Buck ZVS Condition**

## **Sync-Buck State Plane (Ring out)**



### Sync-Buck State Plane – ZVS

### **Sync-Buck Complete State Plane**



#### **State Plane Solution: Intervals 1 & 2**

#### State Plane Solution: Intervals 3 & 4

#### **State Plane Solution: Averaging Step**

#### **Normalized Period**