Rectifier Topology ⟷ Inverter Topology

Both V and G control i flow

Only G allows i flow

6 point

$$E_{out}^{DC}\,(\text{Rectifier}) = 1.35\,E_{rms}\cos\alpha$$

$0 \le \alpha \le 90$

$\alpha > 90^\circ$ new mode occurs if

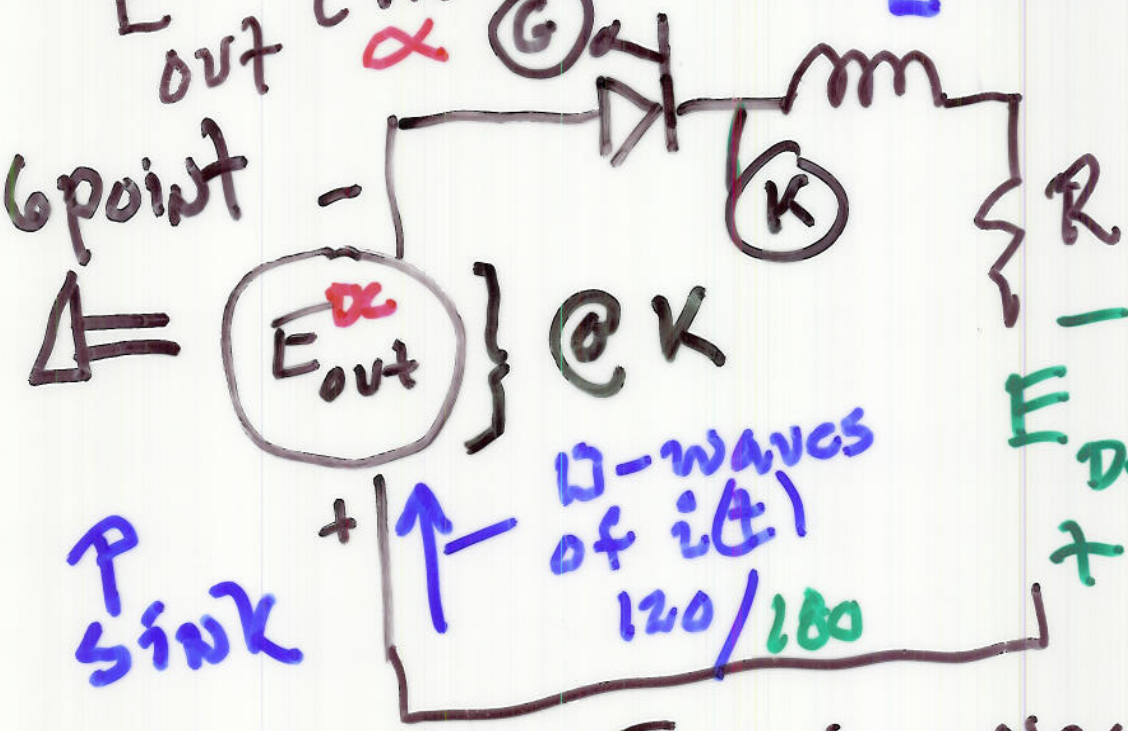
We add a "battery" as load E_{DC}

So diode always on.

$$E_{out}\,(\text{inverter})$$

α G

L ← V-sec set i_L



$\alpha > 90^\circ$ E_{out} is negative

$$|E_{out}| = 1.35\,E_{Rms}\cos(\alpha > 90)$$

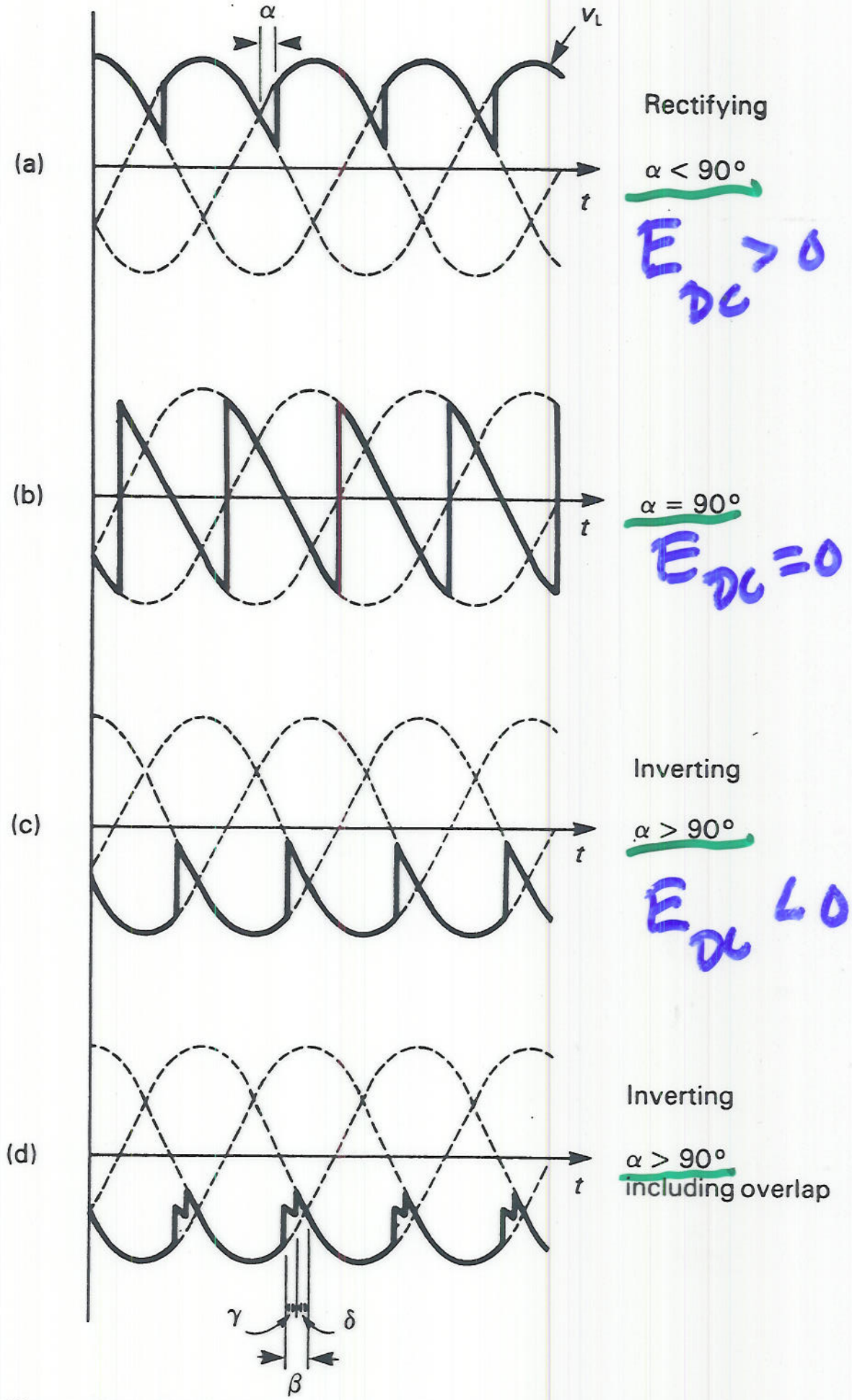


Fig. 2.12 Three-phase half-wave converter showing effect of firing angle variation.

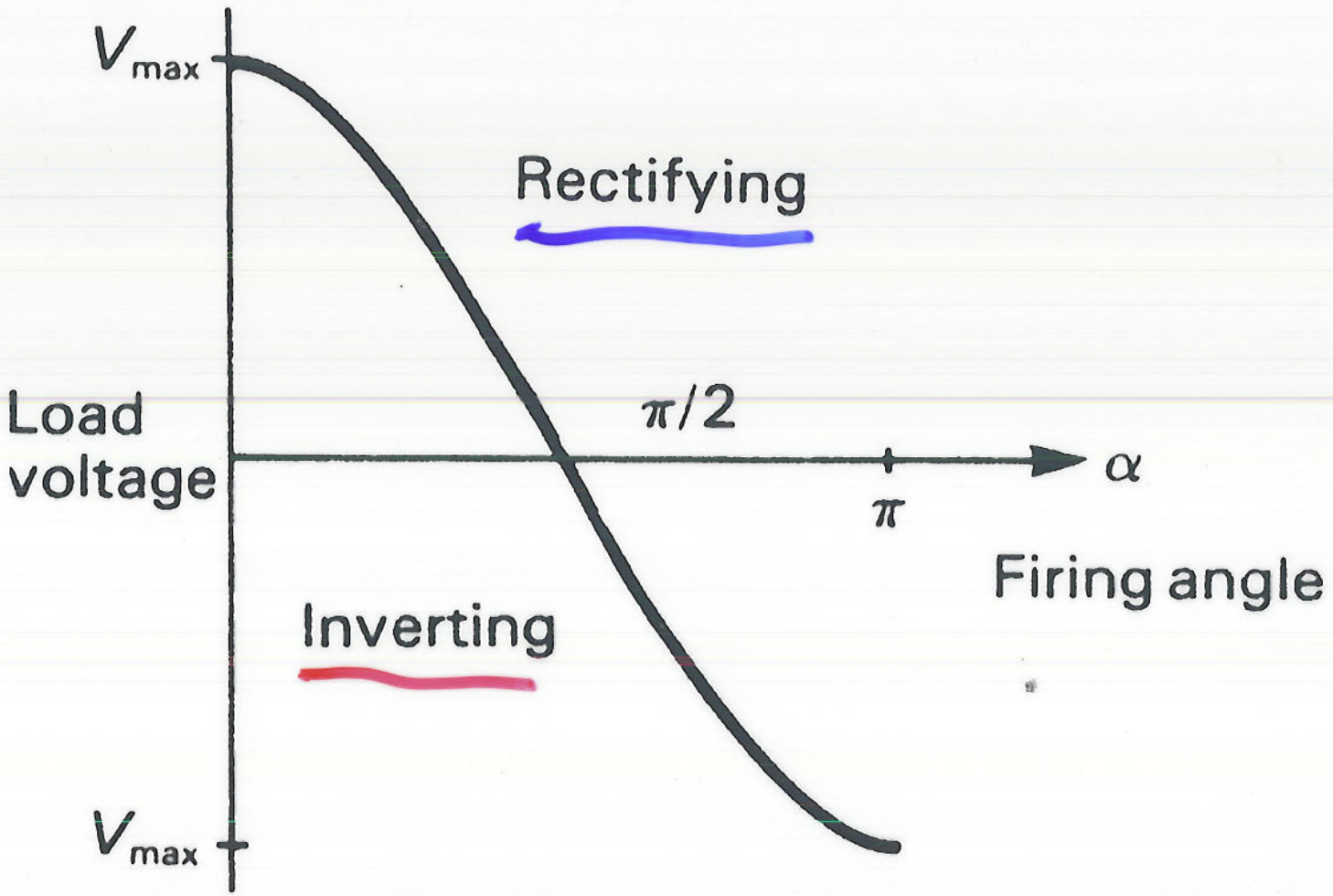


Fig. 2.11 Variation of mean load voltage with firing angl