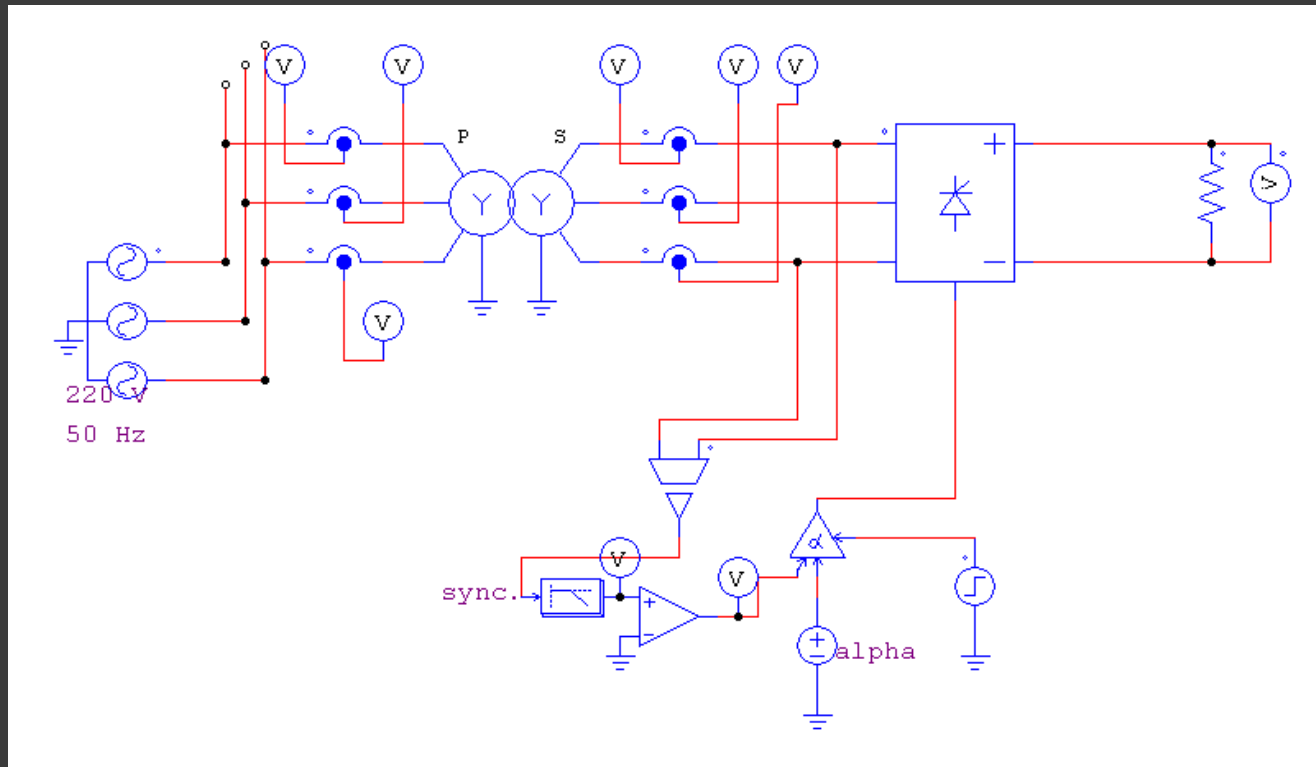


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<http://ocw.ehu.es>

# Estudio de Rectificadores Trifásicos

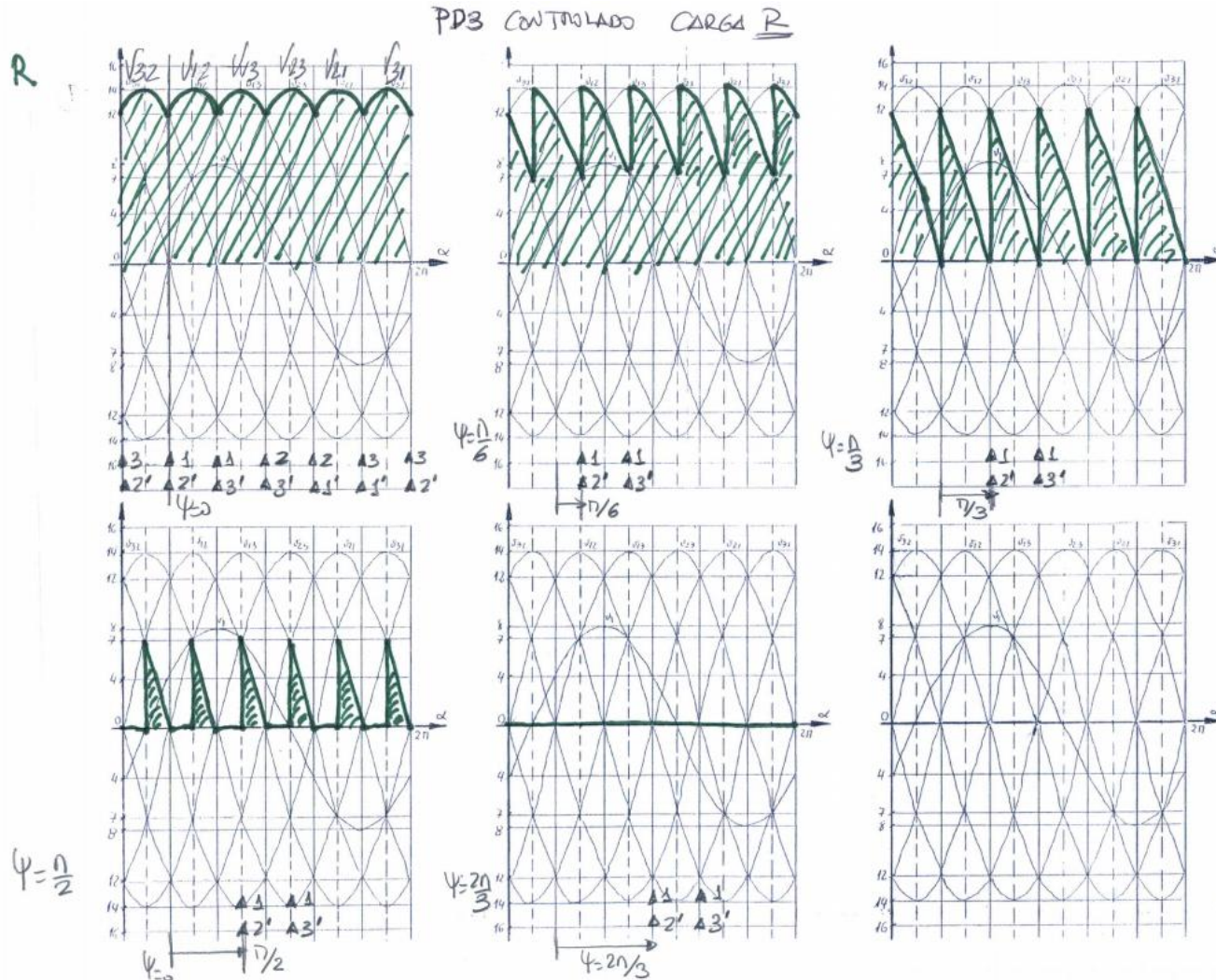
11.- PD3 controlado

# Rectificador trifásico paralelo doble controlado PD3



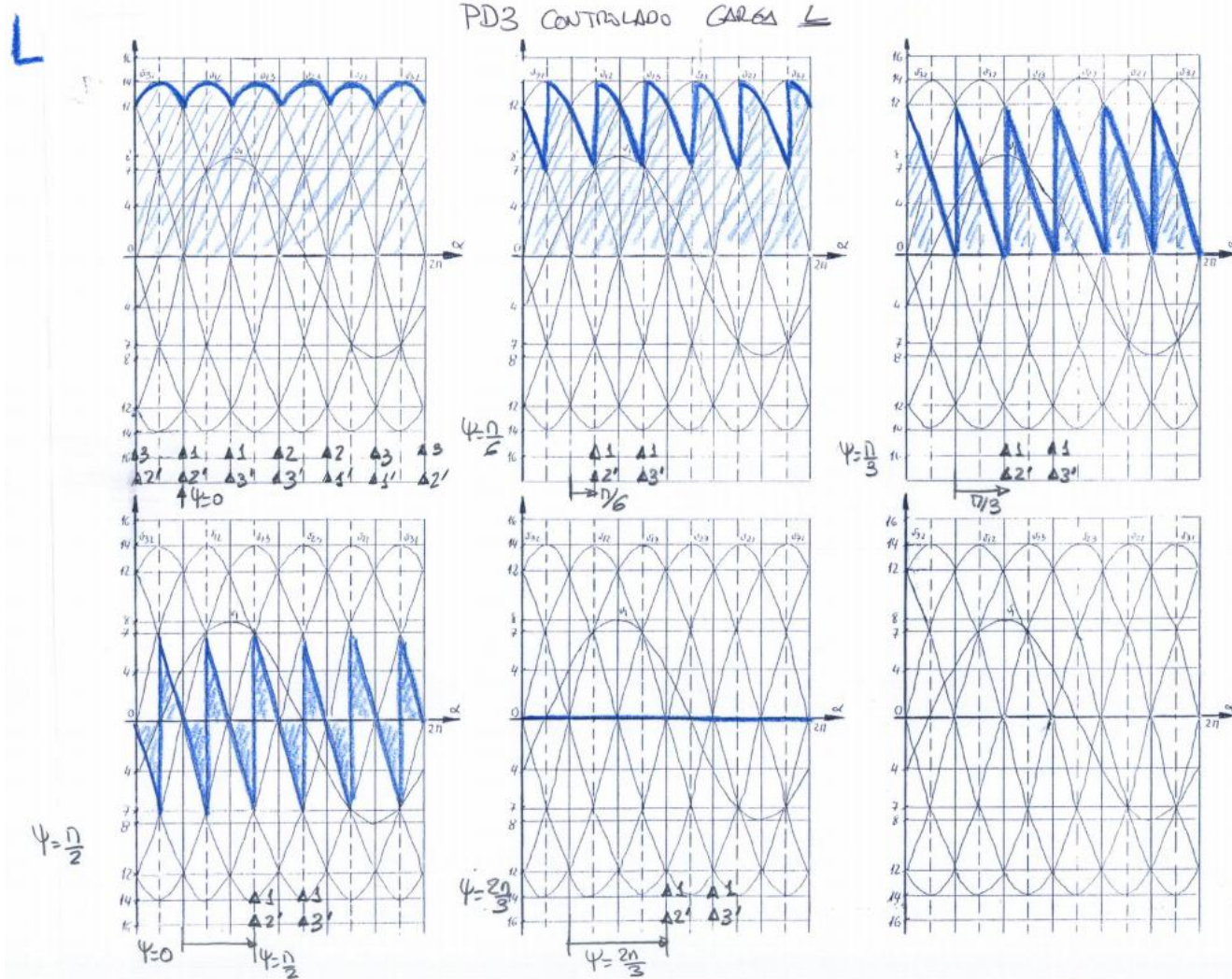
# Rectificador trifásico paralelo doble PD3 controlado

## Estudio de las tensiones. Carga R



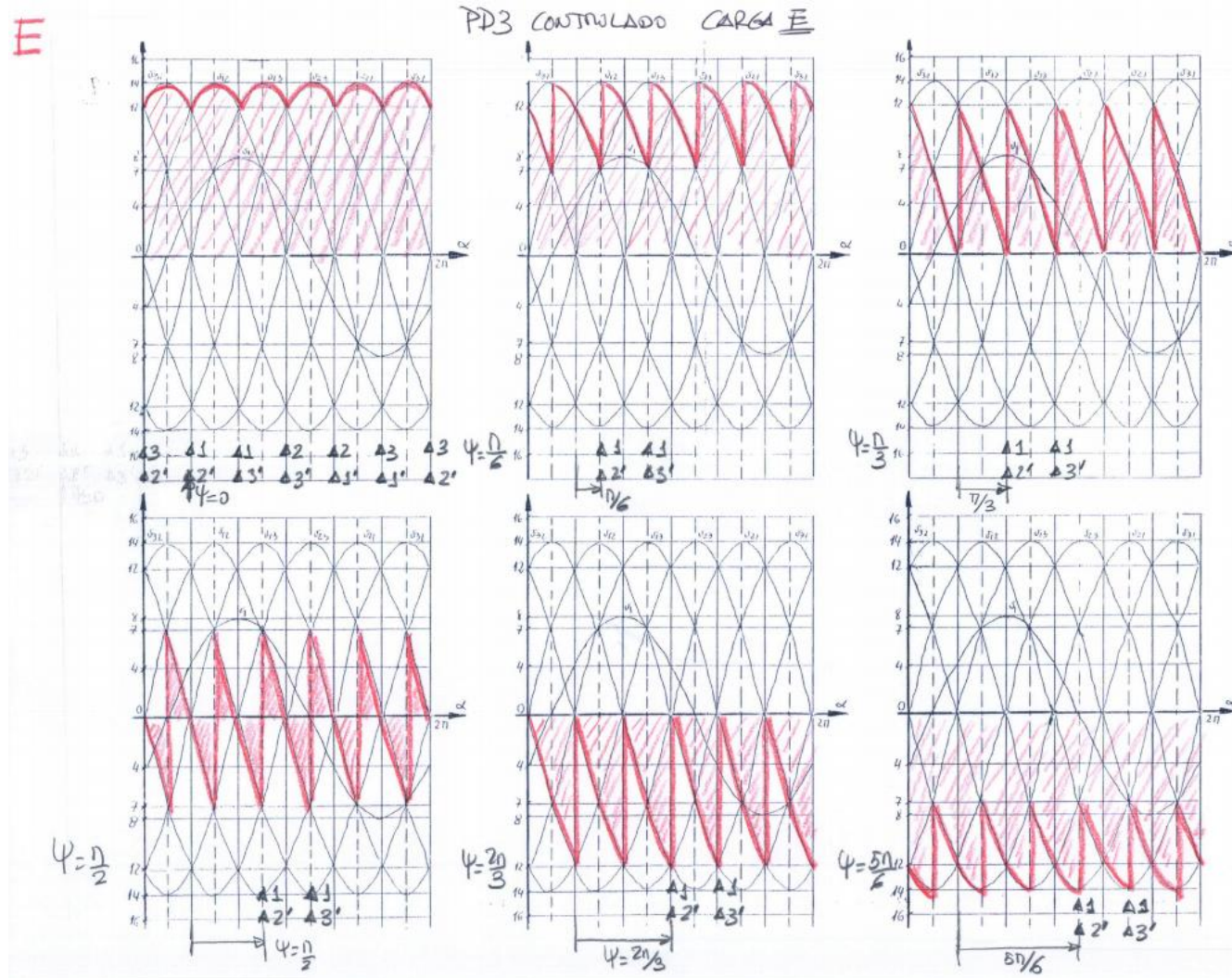
# Rectificador trifásico paralelo doble PD3 controlado

## Estudio de las tensiones. Carga L



# Rectificador trifásico paralelo doble PD3 controlado

## Estudio de las tensiones. Carga E



# Rectificador trifásico paralelo doble PD3 controlado

## Estudio de las tensiones

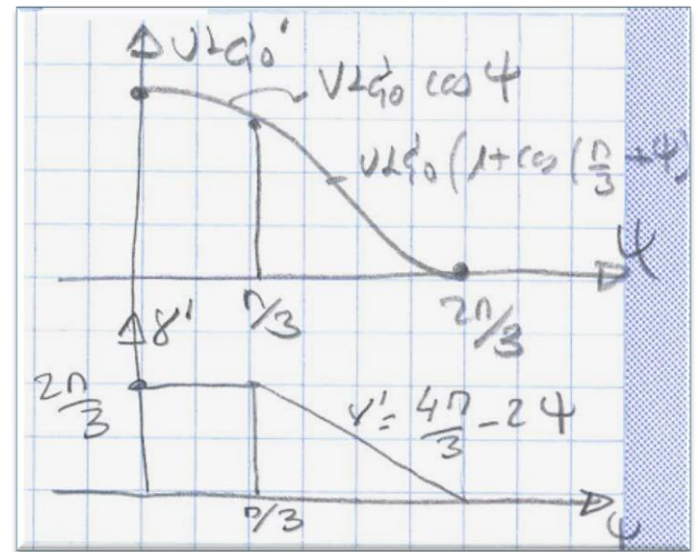
Carga resistiva :

$$0 \leq \psi \leq \frac{\pi}{3} \rightarrow \gamma' = \frac{2\pi}{3}$$

$$VLC_0' = \frac{6}{2\pi} \int_{\frac{\pi}{3} + \psi}^{\frac{2\pi}{3} + \psi} \sqrt{3} V_0 \operatorname{sen} \alpha \, d\alpha = \frac{3\sqrt{3}}{\pi} V_0 \cos \psi = VLC_0 \cos \psi$$

$$\frac{\pi}{3} < \psi \leq \frac{2\pi}{3} \rightarrow \gamma' = 2 \left( \pi - \left( \frac{\pi}{3} + \psi \right) \right) = \frac{4\pi}{3} - 2\psi$$

$$VLC_0' = \frac{6}{2\pi} \int_{\frac{\pi}{3} + \psi}^{\pi} \sqrt{3} V_0 \operatorname{sen} \alpha \, d\alpha = VLC_0 \left( 1 + \cos \left( \frac{\pi}{3} + \psi \right) \right)$$



# Rectificador trifásico paralelo doble PD3 controlado

## Estudio de las tensiones

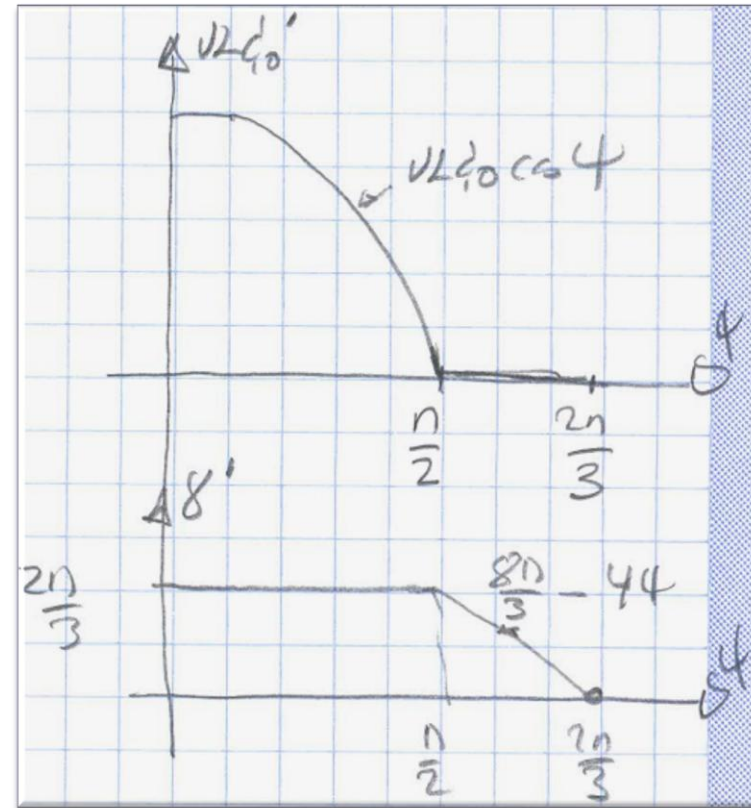
Carga inductiva:

$$0 \leq \psi \leq \frac{\pi}{2} \rightarrow \gamma' = \frac{2\pi}{3}$$

$$VLC_0' = \frac{6}{2\pi} \int_{\frac{\pi}{3} + \psi}^{\frac{2\pi}{3} + \psi} \sqrt{3} V_0 \operatorname{sen} \alpha \, d\alpha = \frac{3\sqrt{3}}{\pi} V_0 \cos \psi = VLC_0 \cos \psi$$

$$\frac{\pi}{2} \leq \psi \leq \frac{2\pi}{3} \rightarrow \gamma' = 4 \left( \pi - \left( \frac{\pi}{3} + \psi \right) \right) = \frac{8\pi}{3} - 4\psi$$

$$VLC_0' = 0$$



# Rectificador trifásico paralelo doble PD3 controlado

## Estudio de las tensiones

Carga activa:

$$0 \leq \psi \leq \pi \rightarrow \gamma' = \frac{2\pi}{3}$$

$$VLC'_0 = \frac{6}{2\pi} \int_{\frac{\pi}{3} + \psi}^{\frac{2\pi}{3} + \psi} \sqrt{3} V_0 \operatorname{sen} \alpha \, d\alpha = \frac{3\sqrt{3}}{\pi} V_0 \cos \psi = VLC_0 \cos \psi$$

