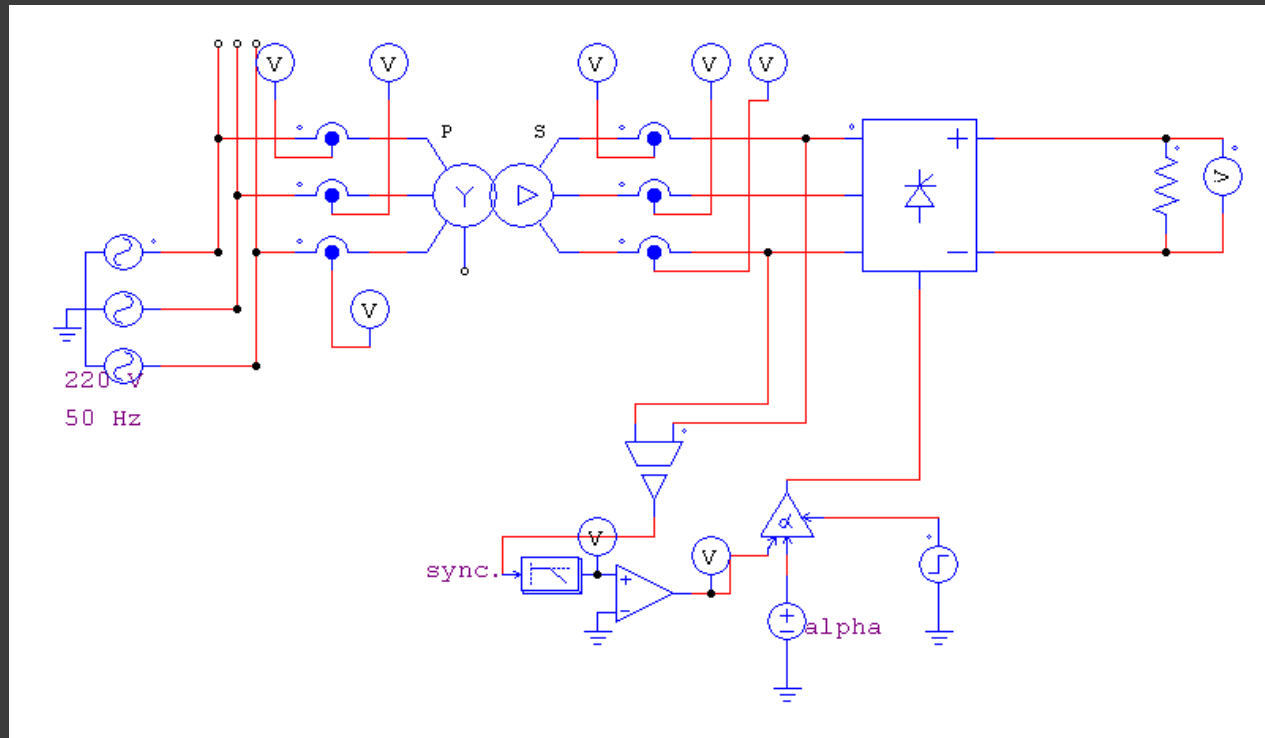


OpenCourseWare de la Universidad del País Vasco / Euskal Herriko Unibertsitatea
<http://ocw.ehu.es>

Estudio de Rectificadores Trifásicos

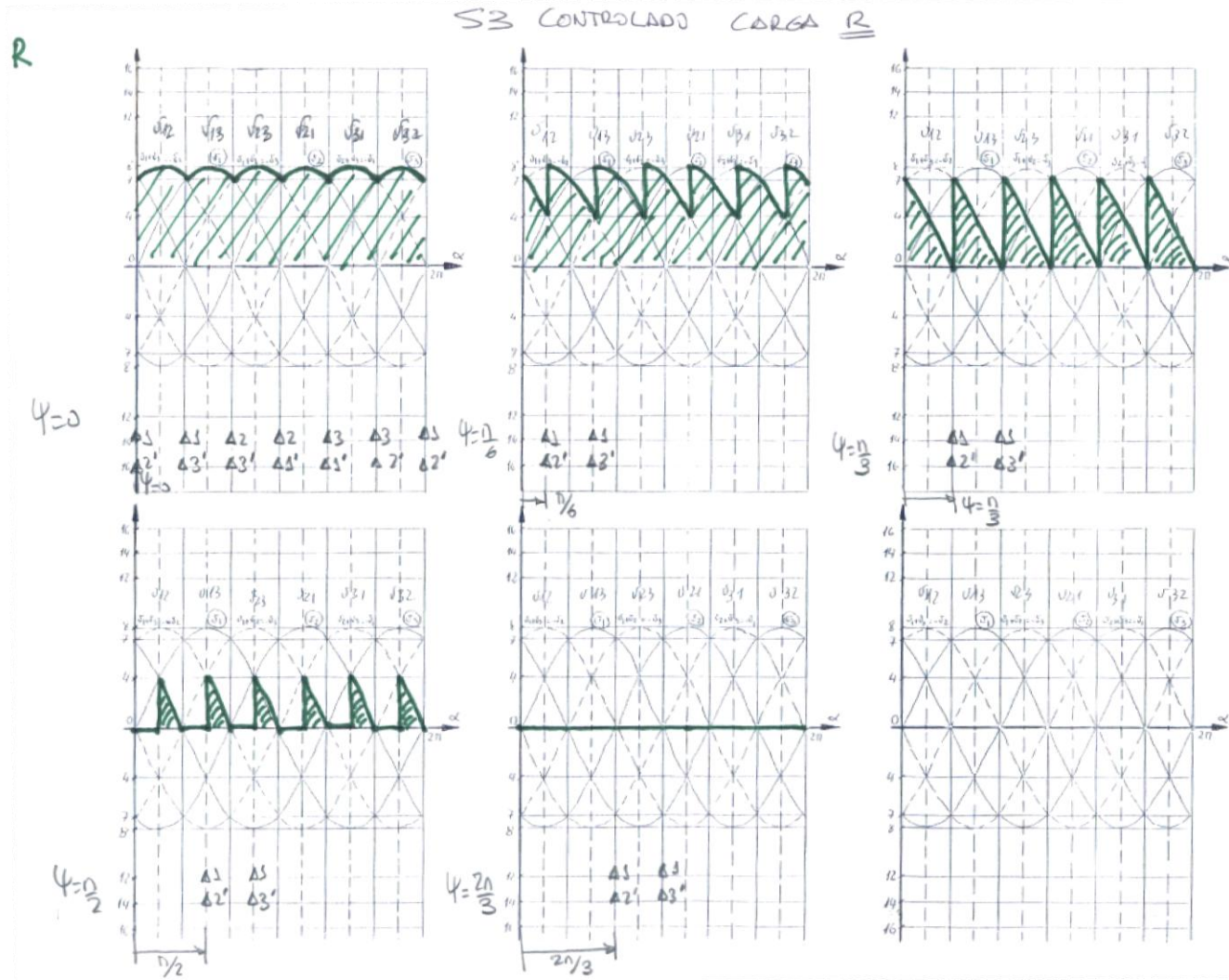
12.- S3 controlado

Rectificador trifásico serie controlado S3



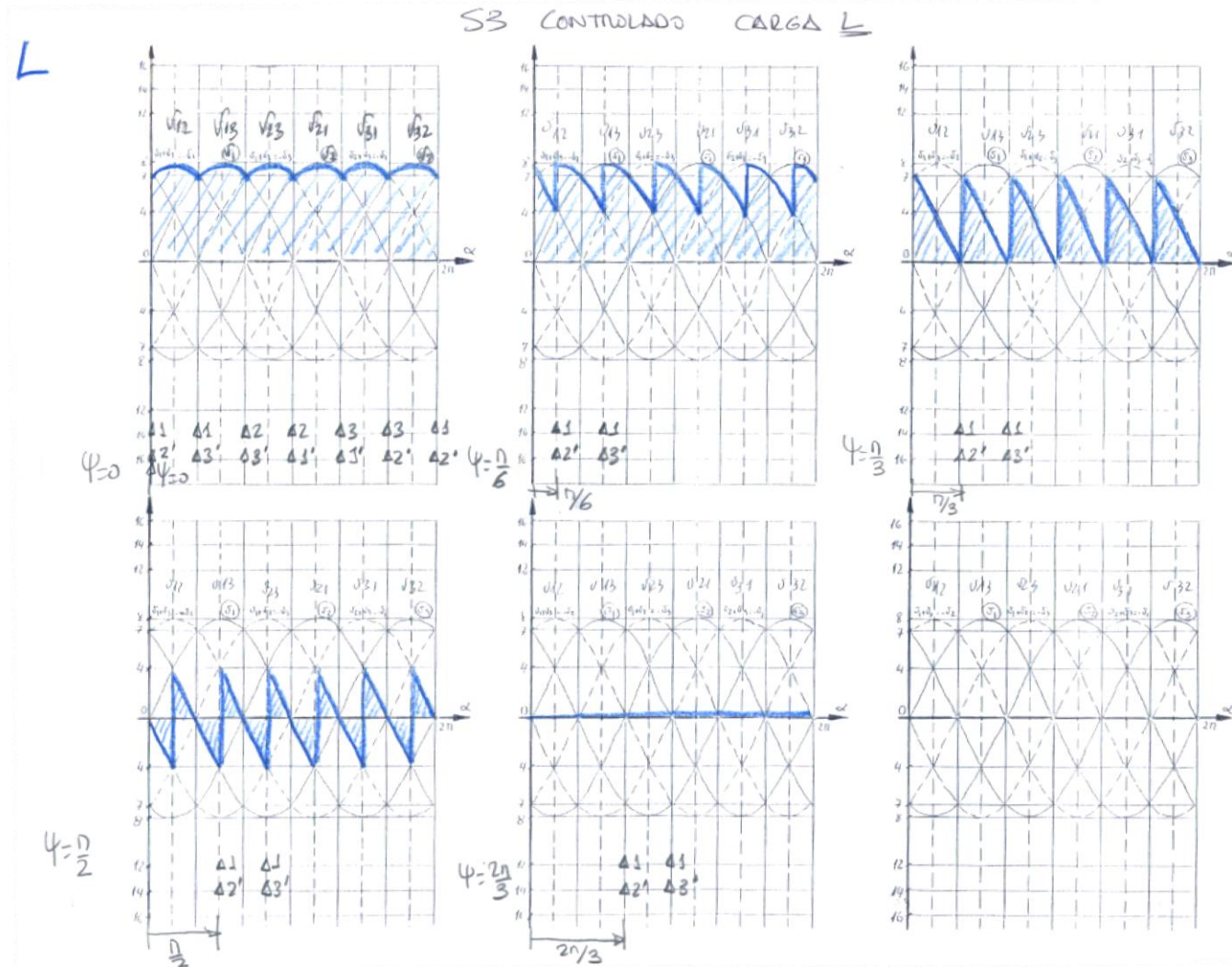
Rectificador trifásico serie S3 controlado

Estudio de las tensiones. Carga R



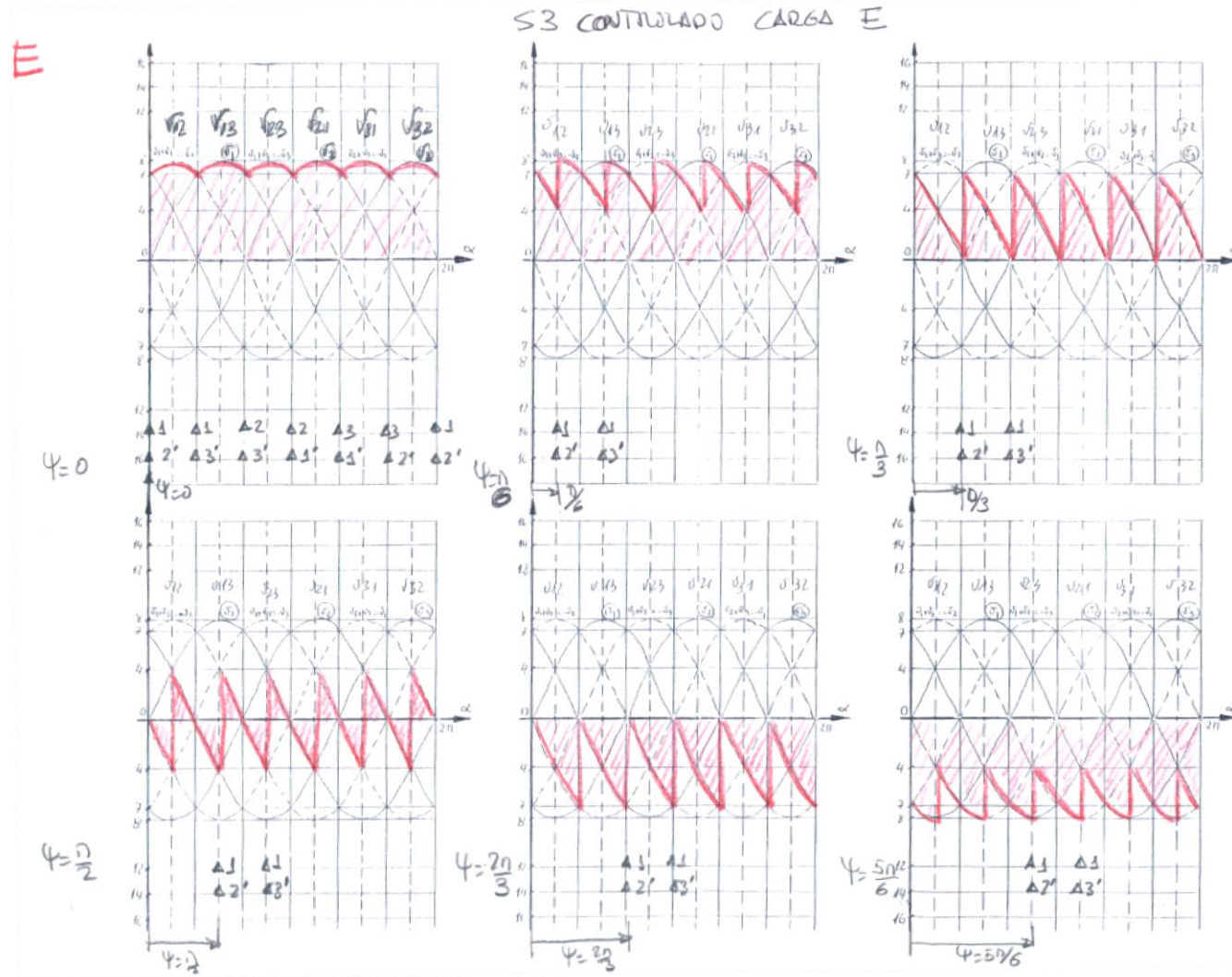
Rectificador trifásico serie S3 controlado

Estudio de las tensiones. Carga L



Rectificador trifásico serie S3 controlado

Estudio de las tensiones. Carga E



Rectificador trifásico serie S3 controlado

Estudio de las tensiones

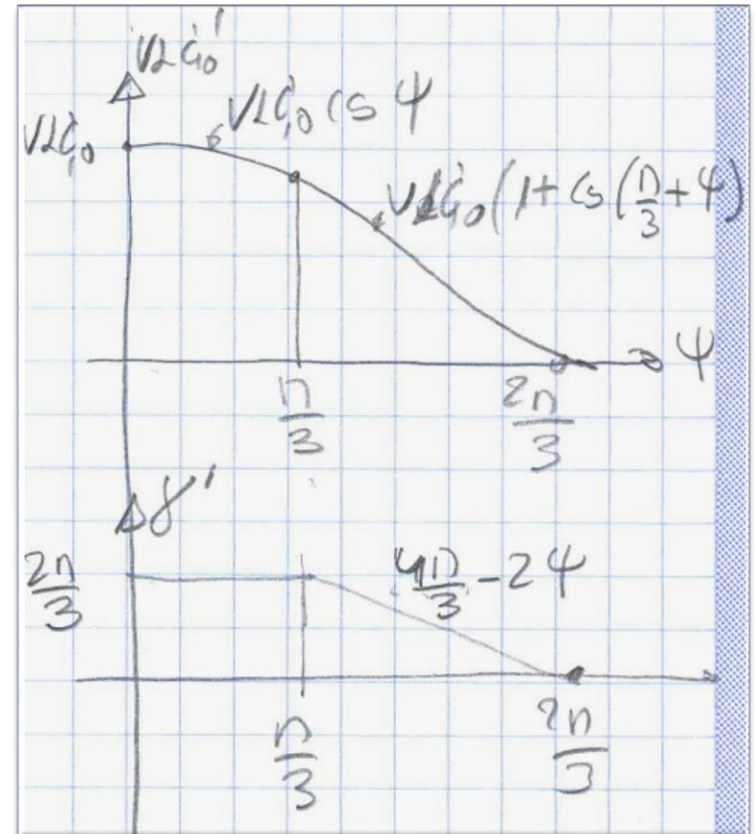
Carga resistiva :

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

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

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

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



Rectificador trifásico serie S3 controlado

Estudio de las tensiones

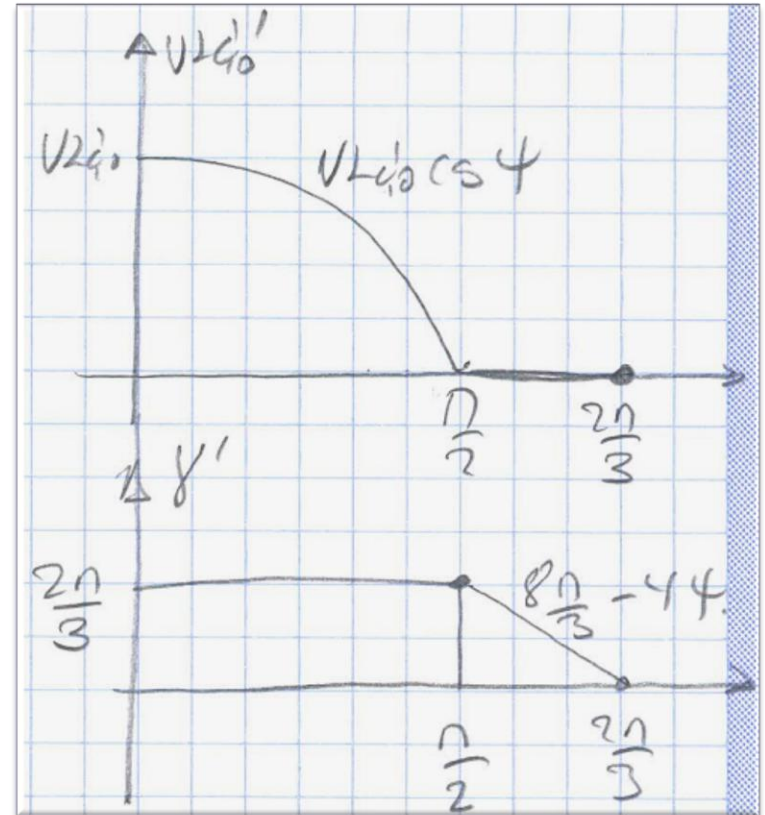
Carga inductiva:

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

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

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

$$VLC'_0 = 0$$



Rectificador trifásico serie S3 controlado

Estudio de las tensiones

Carga activa:

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

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

