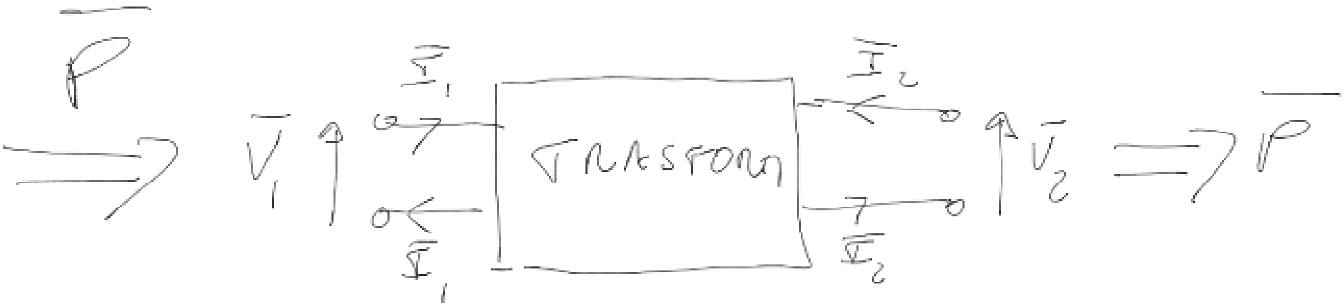
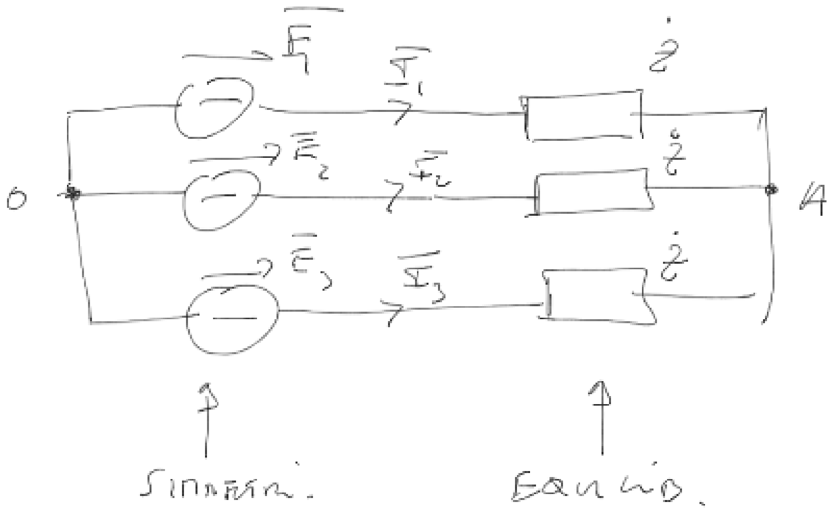
Lezione 29



$$|\bar{P}_1| = \frac{1}{2} V_{M_1} I_{M_1} = |\bar{P}_2| = \frac{1}{2} V_{M_2} I_{M_2}$$

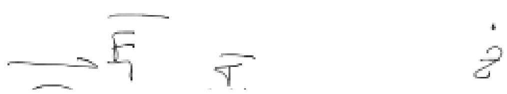
$$V_{M_1} \gg V_{M_2}$$

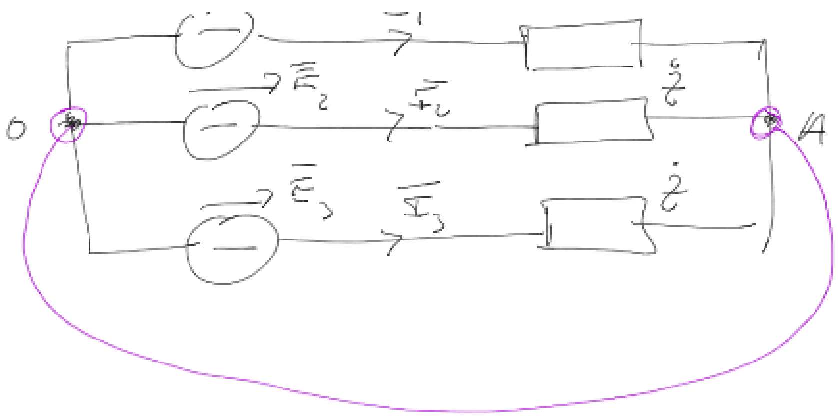
Unicità del centro stella



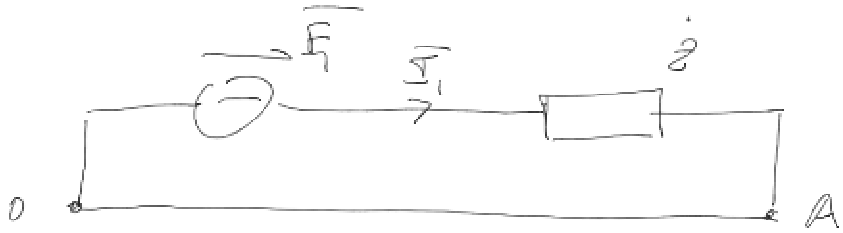
$$\bar{V}_{OA} = 0$$

Possiamo separare il sistema trifase in tre sistemi monofase indipendenti





1



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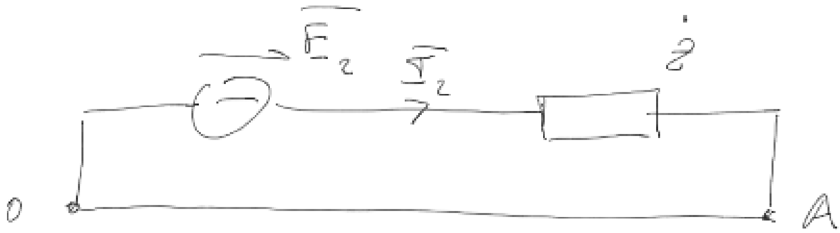

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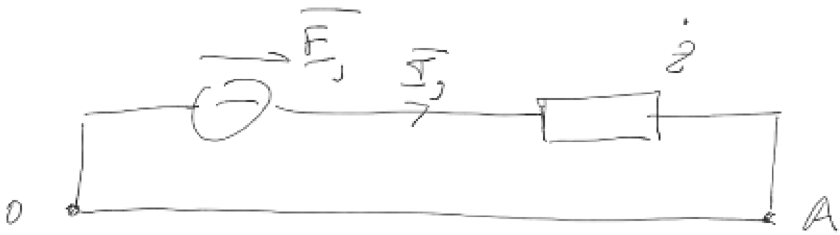
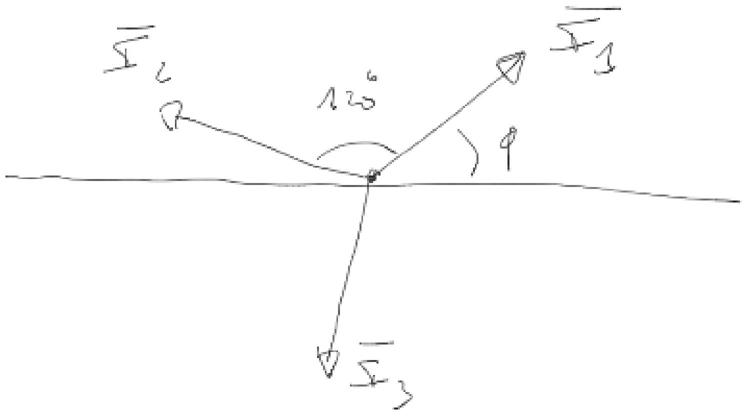
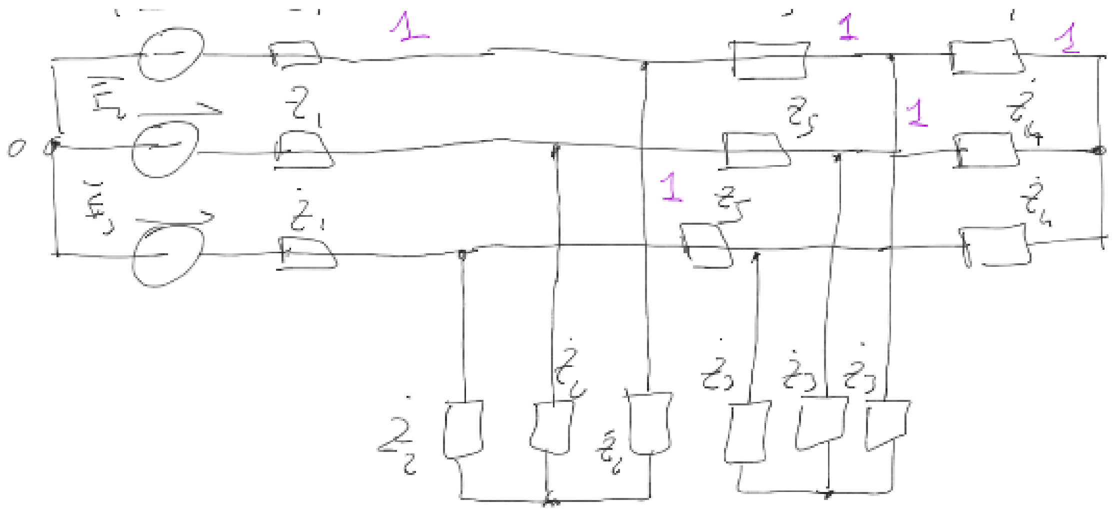


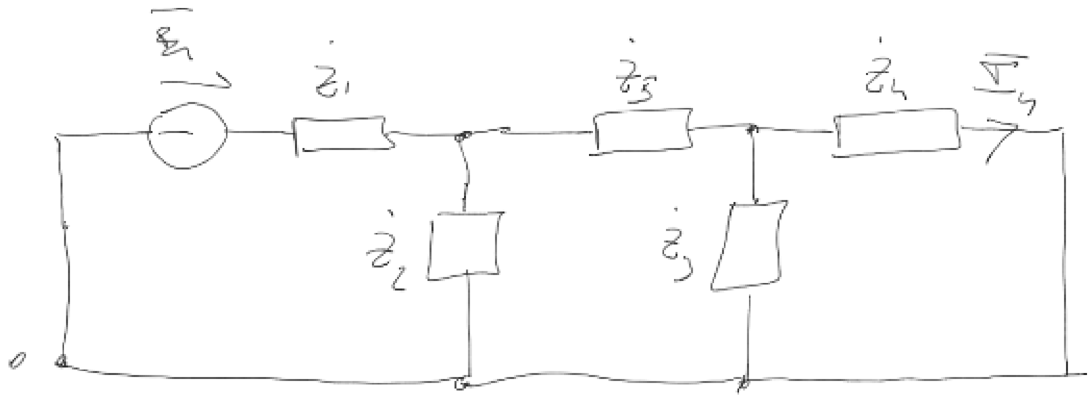


Esempio

$\bar{E}_1 \longrightarrow \dot{Z}_1$ $\quad Z_c \quad \dot{Z}_c$

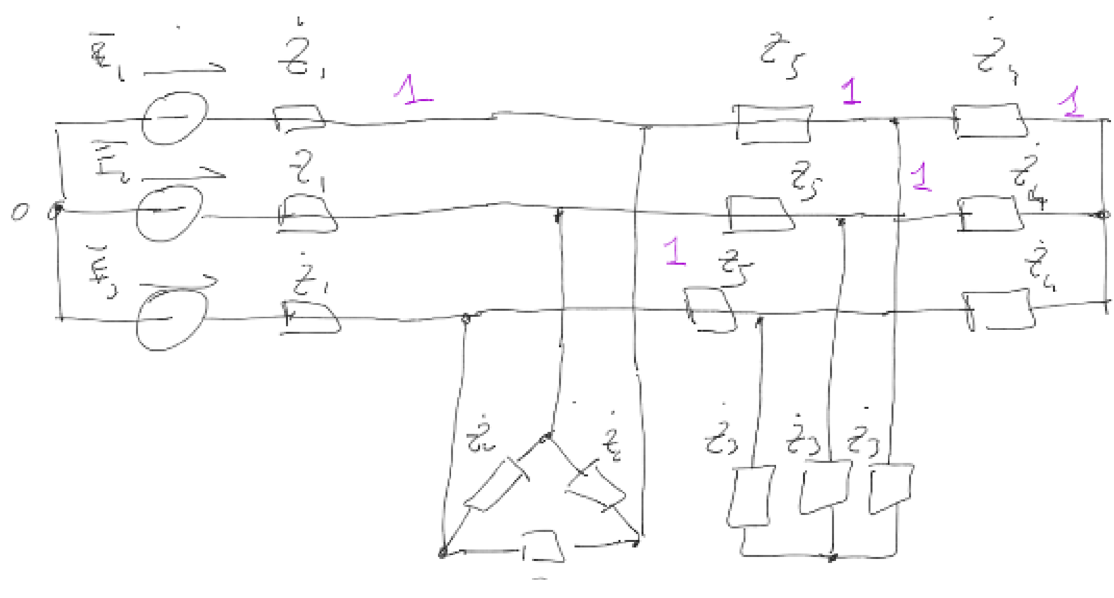


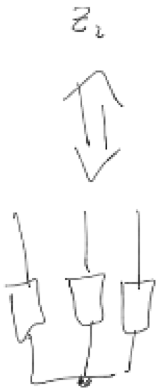
IPOTESI DI GEN. SIMMETRICO E CARICHI EQUILIBRATI



AD ESEMPIO DI CALCOLO LA $\bar{I}_4$

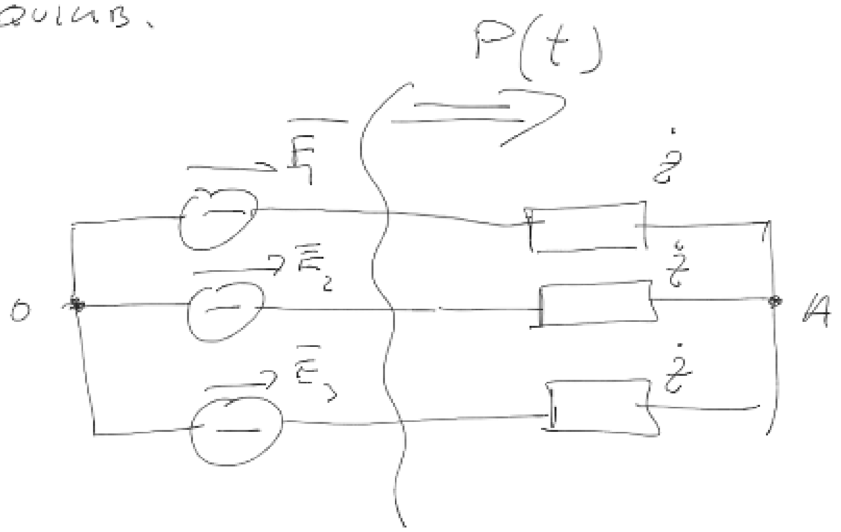
SE SONO PRESENTI CARICHI A TRIANGOLO POSSO TRASF. IN STELLA.





$\boxed{\text{LA TRASFORMAZIONE STELLA-TRIANGOLO SULLE IMPEDENZE È LA STESSA DI QUELLA SULLE RESISTENZE}}$

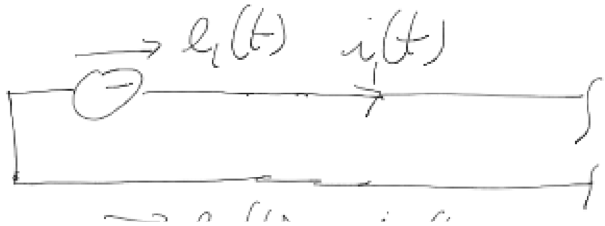
POTENZA ISTANTANEA NEI SISTEMI TRIFASE SIMM-EQUILIB.



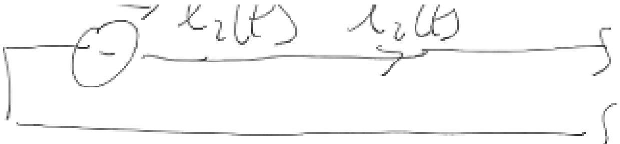
$$p(t) = p_1(t) + p_2(t) + p_3(t)$$

DOVE $p_1(t)$, $p_2(t)$, $p_3(t)$ SONO RISPETTIVAMENTE LE POTENZE ISTANTANEE DI $e_1(t)$, $e_2(t)$, $e_3(t)$

1



$$p_1(t) = e_1(t)\, i_1(t)$$

(2) 

$$P_2(t) = e_2(t)\, i_2(t)$$

(3) 

$$P_3(t) = e_3(t)\, i_3(t)$$

$$e_1(t) = E_n \sin(\omega t + \varphi_e)$$
$$i_1(t) = I_n \sin(\omega t + \varphi_i)$$

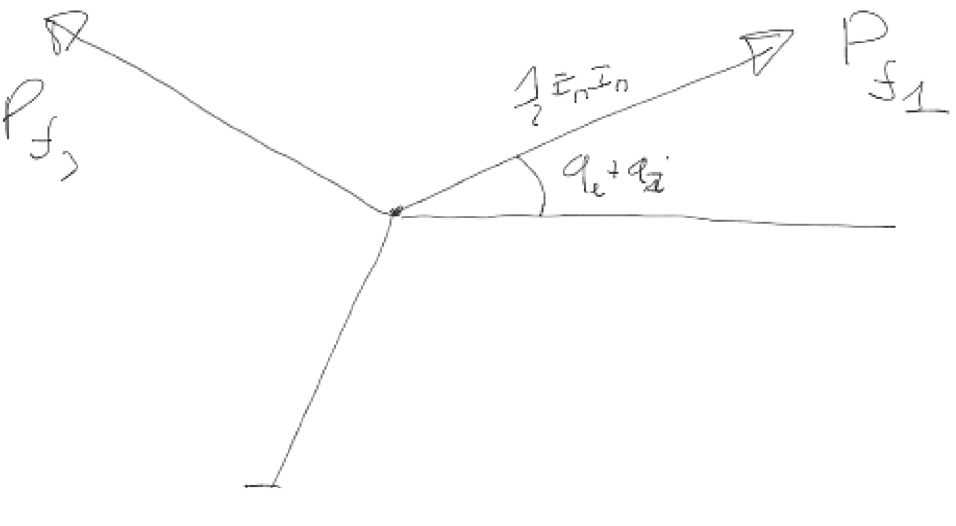
$$P_1(t) = e_1(t)\, i_1(t) = \frac{1}{2} E_n I_n \cos\overbrace{(\varphi_e - \varphi_i)}^{\varphi} + \overbrace{\frac{1}{2} E_n I_n \cos(2\omega t + \varphi_e + \varphi_i)}^{P_{f_1}}$$

$$P_2(t) = e_2(t)\, i_2(t) = \frac{1}{2} E_n I_n \cos(\varphi_e - \varphi_i) + \overbrace{\frac{1}{2} E_n I_n \cos\left(2\omega t + \varphi_e + \varphi_i + \frac{4}{3}\pi\right)}^{P_{f_2}}$$

$$P_3(t) = e_3(t)\, i_3(t) = \frac{1}{2} E_n I_n \cos(\varphi_e - \varphi_i) + \underbrace{\frac{1}{2} E_n I_n \cos\left(2\omega t + \varphi_e + \varphi_i + \frac{8}{3}\pi\right)}_{P_{f_3}}$$

$$P(t) = P_1 + P_2 + P_3 = 3\,\frac{1}{2} E_n I_n \cos(\varphi) + \emptyset$$

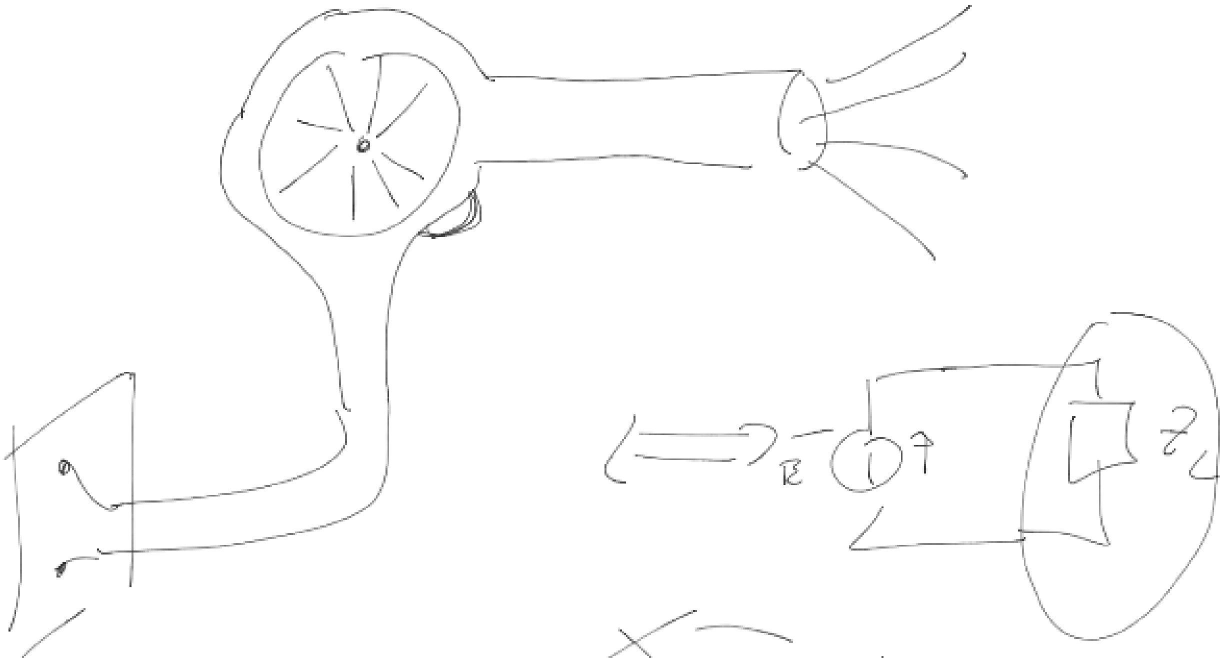
SOMMA DELLA POTENZE FLUTTUANTI

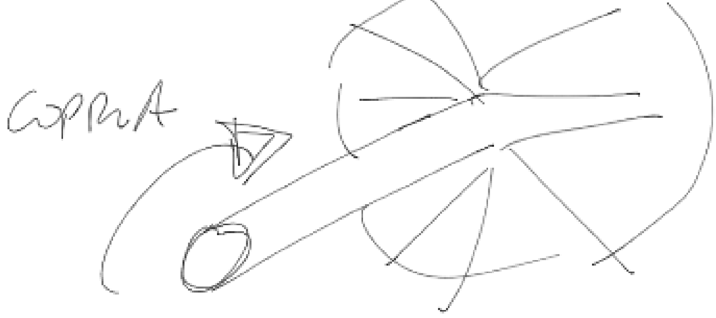


$\forall P_{f_2}$

CHE CORRISPONDE AD UNA TERNA SIMMETRICA
LA CUI SOMMA DELLE TRE COMPONENTI DA Ø

$$\boxed{\begin{gathered} P(t) = 3 P_e \\ P_e = \frac{1}{2} E_m I_m \cos(\varphi) \end{gathered}}$$





Con... |