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$$P_{\text{verl}} = \frac{U_{p1} \cdot U_{\text{verl}1}}{X_{\text{gen}}} \cdot \sin \delta = P_{\text{cipp}} \cdot \sin \delta$$

$$P_{\text{verl}1} = 0,62 \cdot P_{\text{cipp}} \Rightarrow \delta = 38,32^\circ \text{ (genau) } \vec{U}_{p1} \text{ und } \vec{U}_{\text{verl}1}$$

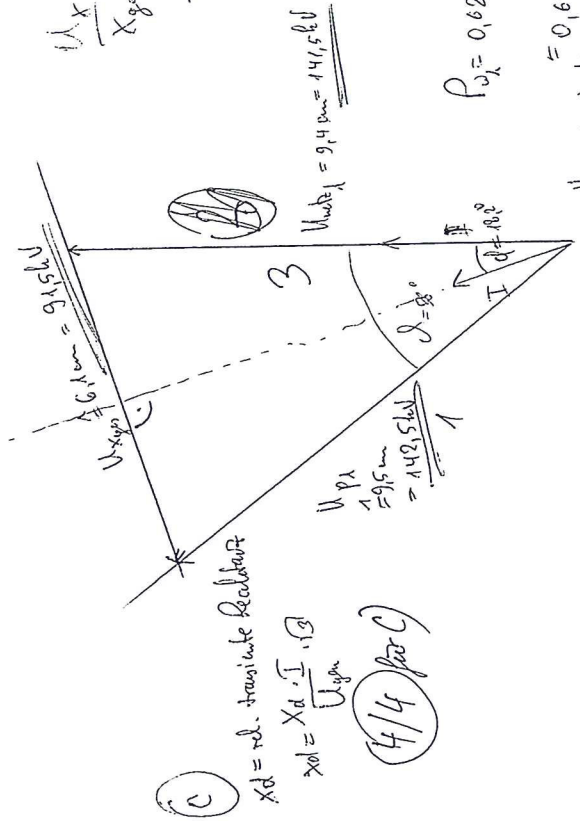
$$\Rightarrow \delta = 18,2^\circ \text{ (genau) } \vec{I} \text{ und } \vec{U}_{\text{verl}1} \text{ ! induktiv}$$

$$\vec{U}_{p1} = \vec{U}_{\text{verl}1} + \vec{U}_{X_{\text{gen}}}$$

$$U_{\text{verl}1} = \frac{245 \text{ kV}}{\sqrt{3}} = 141,5 \text{ kV}$$

$$I_{\text{Lm}} = 15 \text{ kA}$$

$$\frac{U_X}{X_{\text{gen}}} = I \rightarrow \text{Plauschen gleiches Ergebnis?}$$



(c) $X_d = \text{rd. transiente Reaktanz}$

$$x_d = X_d \cdot \frac{I}{U_{\text{gen}}}$$

$$\frac{4}{4} \text{ (für C)}$$

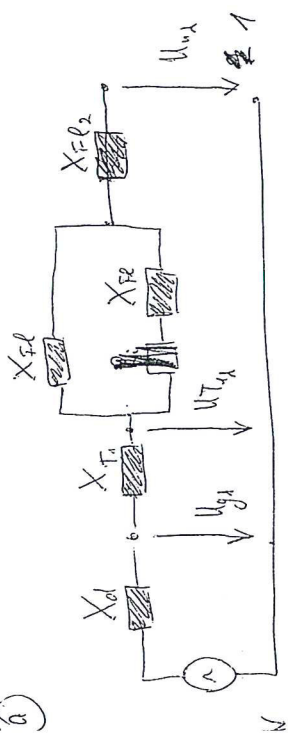
$$P_{\text{cipp}} = 0,62 \cdot \frac{U_{p1} \cdot U_{\text{verl}1}}{X_{\text{gen}}} = 0,62 \cdot \frac{141,5 \text{ kV} \cdot 141,5 \text{ kV}}{111,66 \text{ } \Omega}$$

$$P_{\text{cipp}} = 111,96 \text{ MW}$$

$$P_{\text{cipp}} = 335,88 \text{ MW}$$

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$$X_d = \frac{x_d \cdot U_e^2}{S} = 1,06 \cdot \frac{(245 \text{ kV})^2}{2950 \text{ MVA}} = 28,29 \text{ } \Omega$$

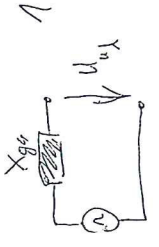
$$X_{T1} = \frac{U_e^2}{S} = 6,003 \text{ } \Omega$$

$$X_{T2} = 134,75 \text{ } \Omega$$

$$X_{F2} = 10 \text{ } \Omega$$

$$X_{g2} = X_d + X_{T1} + \frac{1}{\frac{1}{X_{F2}} + \frac{1}{X_{T2}}} + X_{F2}$$

$$X_{g2} = 111,66 \text{ } \Omega$$



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