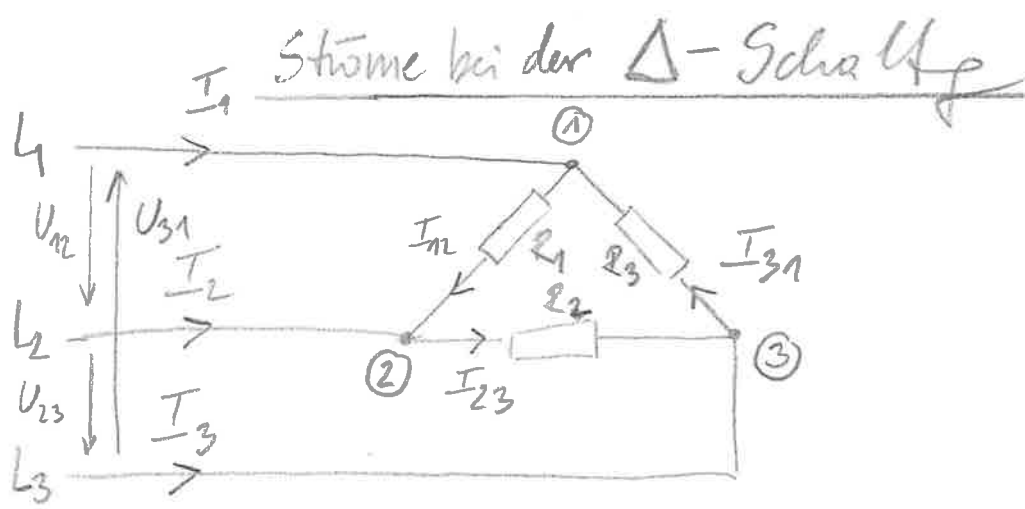


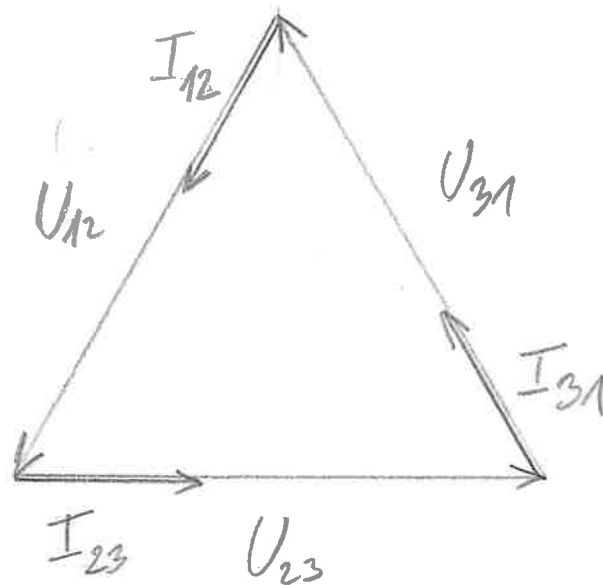


$$U_{12} = U_{23} = U_{31} = U_{\Delta}$$

$$R_1 = R_2 = R_3 = R$$

$$\Rightarrow I_{12} = I_{23} = I_{31} = I_{\Delta}$$

$$\Rightarrow I_1 = I_2 = I_3 = I_L = I_L$$

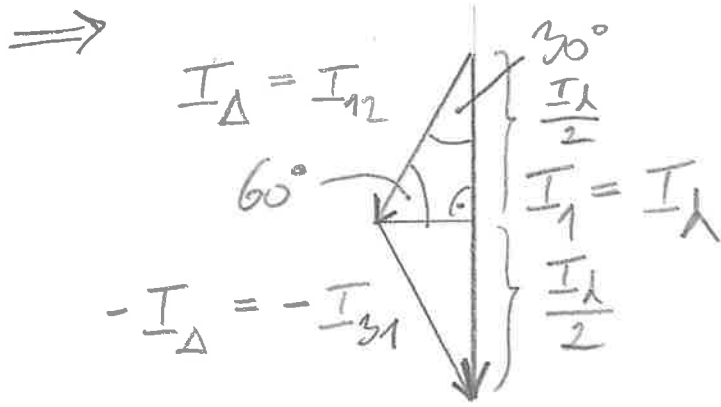


Knotenregel: $\sum I_{zu} = \sum I_{ab}$

$$\textcircled{1}: I_1 + I_{31} = I_{12} \Rightarrow I_1 = I_{12} - I_{31}$$

$$\textcircled{2}: I_2 + I_{12} = I_{23} \Rightarrow I_2 = I_{23} - I_{12}$$

$$\textcircled{3}: I_3 + I_{23} = I_{31} \Rightarrow I_3 = I_{31} - I_{23}$$



$$\Rightarrow \sin 60^\circ = \frac{\frac{I_\lambda}{2}}{I_\Delta}$$

$$\frac{I_\lambda}{2} = I_\Delta \cdot \sin 60^\circ$$

$$\frac{I_\lambda}{2} = I_\Delta \cdot \frac{\sqrt{3}}{2}$$

$$I_\lambda = I_\Delta \cdot \sqrt{3}$$

$$\text{d.h.: } I_{\text{Leiter}} = I_{\text{Str.}} \cdot \sqrt{3} \quad \text{bzw. } I_{\text{Str.}} = \frac{I_L}{\sqrt{3}}$$