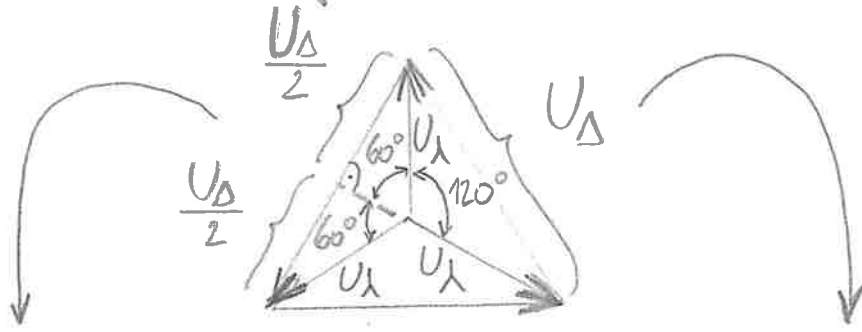


Herleitung $U_{\Delta} = \sqrt{3} \cdot U_{\lambda}$



Version 1

Version 2

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

$$\Rightarrow \frac{U_{\Delta}}{2} = U_{\lambda} \cdot \underbrace{\sin 60^\circ}_{= \frac{\sqrt{3}}{2}}$$

$$\frac{U_{\Delta}}{2} = \frac{\sqrt{3} U_{\lambda}}{2}$$

$$\underline{\underline{U_{\Delta} = \sqrt{3} \cdot U_{\lambda}}}}$$

Cosinussatz:

$$c^2 = a^2 + b^2 - 2ab \cos \gamma$$

$$U_{\Delta}^2 = U_{\lambda}^2 + U_{\lambda}^2 - 2U_{\lambda}U_{\lambda} \underbrace{\cos 120^\circ}_{= -\frac{1}{2}}$$

$$U_{\Delta}^2 = 2U_{\lambda}^2 - 2U_{\lambda}^2 \cdot \left(-\frac{1}{2}\right)$$

$$U_{\Delta}^2 = 2U_{\lambda}^2 + U_{\lambda}^2$$

$$U_{\Delta}^2 = 3U_{\lambda}^2 \quad |\sqrt{\dots}$$

$$\underline{\underline{U_{\Delta} = \sqrt{3} U_{\lambda}}}}$$