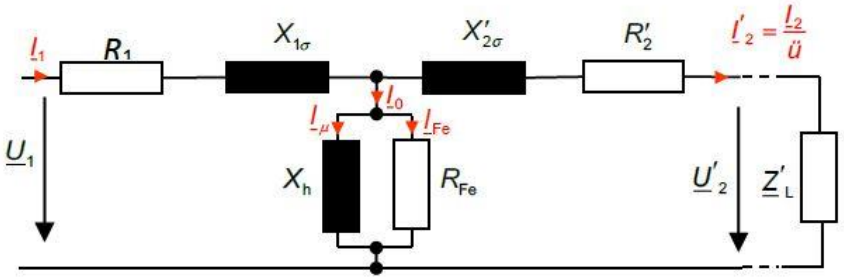
Ersatzschaltbild			
$\ddot{u} = \frac{U_{10}}{U_{20}}$	1		
$\underline{U}'_2 = \ddot{u} \cdot \underline{U}_2$	2		
$\underline{I}'_2 = \frac{1}{\ddot{u}} \cdot I_2$	3		
$R'_2 = \ddot{u}^2 \cdot R_2$	4		
$X'_{2\sigma} = \ddot{u}^2 \cdot X_{2\sigma}$	5		
Bestimmung der Eisenverluste (Leerlaufmessung)			
$P_0 = U_{10} \cdot I_{10} \cdot \cos\varphi_0$	6	$S_0 = U_{10} \cdot I_{10}$	7
$\underline{I}_{10} = I_{Fe} + jI_\mu$	8	$I_{Fe} = I_{10} \cdot \cos\varphi_0$	9
$I_{10} = \sqrt{I_{Fe}^2 + I_\mu^2}$	10	$I_\mu = I_{10} \cdot \sin\varphi_0$	11
$R_{Fe} = \frac{U_{10}}{I_{Fe}} = \frac{U_{10}^2}{P_0}$	12	$X_h = \frac{U_{10}}{I_\mu}$	13
Bestimmung der Kupferverluste (Kurzschlussmessung)			
$P_K = U_{1K} \cdot I_{1K} \cdot \cos\varphi_K = I_{1K}^2 \cdot (R_1 + R'_2)$	14	$S_K = U_{1K} \cdot I_{1K}$	15
$Z_K = \frac{U_{1K}}{I_{1K}}$	16	$Z_K = \sqrt{(R_1 + R'_2)^2 + (X_{1\sigma} + X'_{2\sigma})^2}$	17
$(R_1 + R'_2) = Z_K \cdot \cos\varphi_K$	18	$(X_{1\sigma} + X'_{2\sigma}) = Z_K \cdot \sin\varphi_K$	19
$I_{DK} = \frac{U_{1N}}{Z_K}$	20		
Wirkungsgrad			
$\eta = \frac{P_{ab}}{P_{ab} + P_v}$	21		
$P_{ab} = I_2^2 \cdot R_L = U_2 \cdot I_2 \cdot \cos\varphi_2$	22	$P_v = P_{Fe} + P_{Cu}$	23
$P_{Cu} = \left(\frac{I_1}{I_{1N}}\right)^2 \cdot P_{KN}$	24	$P_{Cu} = \left(\frac{U_1}{U_{1N}}\right)^2 \cdot P_{0N}$	25