

## Leistung an $R_a$ :

$$0 \leq R_a \leq \infty$$

$R_a = 0 \rightarrow$  Kurzschluß

$R_a = \infty \rightarrow$  Leerlauf

$$0 \leq R_a \leq \infty$$

~~Leerlauf~~

Kurzschluß

Leerlauf

$$P = U \cdot I$$

$$I_k = I$$

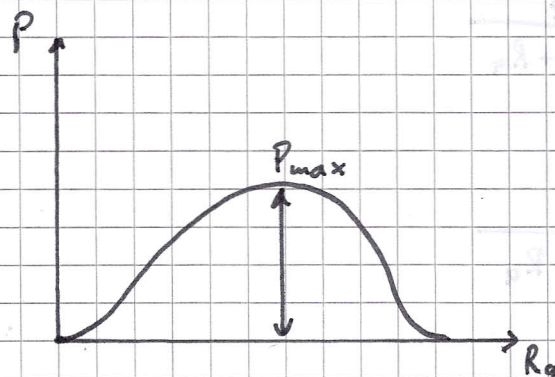
$$U_a = U_q$$

$$U_a = 0$$

$$I = 0$$

$$P = 0$$

$$P = 0$$



$$P_a = I^2 \cdot R_a = \frac{U_q^2 \cdot R_a}{(R_i + R_a)^2}$$

$$\left(\frac{u}{v}\right)' = \frac{u'v - uv'}{v^2}$$

$$P_a' = \frac{U_q^2 (R_i + R_a)^2 - U_q^2 R_a \cdot 2(R_i + R_a)}{(R_i + R_a)^4}$$

$$0 = \frac{U_q^2 (R_i + R_a)^2 - U_q^2 R_a \cdot 2(R_i + R_a)}{(R_i + R_a)^4} \quad \left| \cdot (R_i + R_a)^4 \right.$$