

Zusammenhang zwischen AP und Kleinsignalparametern

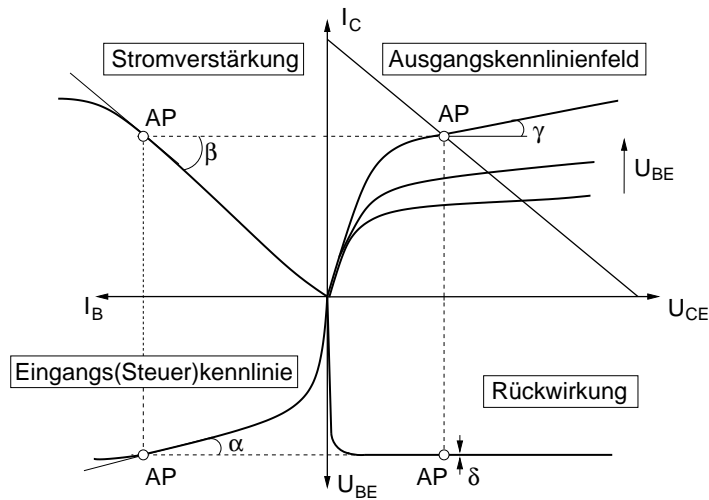
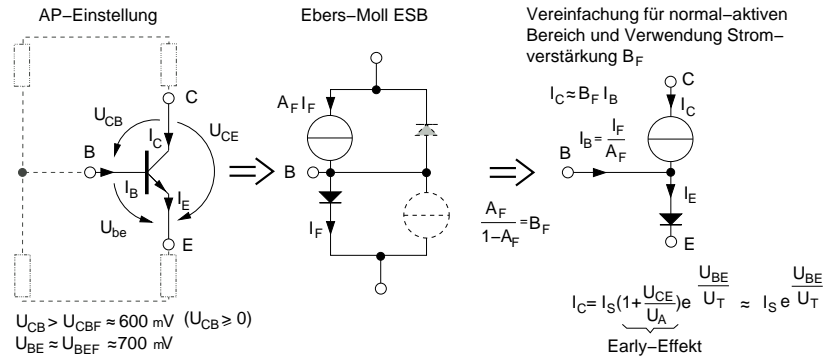
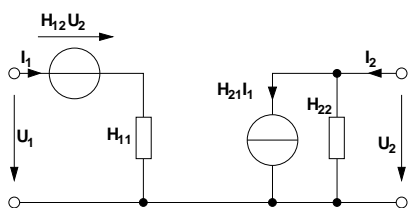


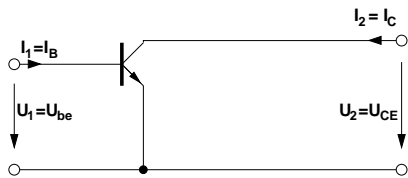
Abb. 1: Kleinsignal Betrieb: kleine Aussteuerung um den AP (klein $\hat{=}$ Linearisierung um den AP liefert Ergebnisse ausreichender Genauigkeit).



H-Parameter:

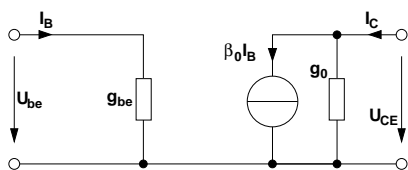
$$\underline{U}_1 = \underline{H}_{11} \underline{I}_1 + \underline{H}_{12} \underline{U}_2$$

$$\underline{I}_2 = \underline{H}_{21} \underline{I}_1 + \underline{H}_{22} \underline{U}_2$$



$$\underline{H}_{11} = \left. \frac{\partial U_{be}}{\partial I_B} \right|_{AP} = \frac{1}{g_{be}} = \tan \alpha$$

$$\underline{H}_{12} = \left. \frac{\partial U_{be}}{\partial U_{CE}} \right|_{AP} \approx 0 = \tan \delta$$



$$\underline{H}_{21} = \left. \frac{\partial I_C}{\partial I_B} \right|_{AP} = \beta_0 = \tan \beta$$

$$\underline{H}_{22} = \left. \frac{\partial I_C}{\partial U_{CE}} \right|_{AP} = g_0 = \tan \delta$$