Conversions entre les paramètres normalisés à $Z_0 = 1$ d'un quadripôle*,

avec $\Delta^K = K_{11}K_{22} - K_{12}K_{21}$

	S	Z	Y	H	A
S	$\begin{pmatrix} b_1 \\ b_2 \end{pmatrix} = \begin{bmatrix} S_{11} & S_{12} \\ S_{21} & S_{22} \end{bmatrix} \begin{pmatrix} a_1 \\ a_2 \end{pmatrix}$	$S_{11} = \frac{(Z_{11}-1)(Z_{22}+1) - Z_{12}Z_{21}}{(Z_{11}+1)(Z_{22}+1) - Z_{12}Z_{21}}$ $S_{12} = \frac{2Z_{12}}{(Z_{11}+1)(Z_{22}+1) - Z_{12}Z_{21}}$ $S_{21} = \frac{2Z_{21}}{(Z_{11}+1)(Z_{22}+1) - Z_{12}Z_{21}}$ $S_{22} = \frac{(Z_{11}+1)(Z_{22}-1) - Z_{12}Z_{21}}{(Z_{11}+1)(Z_{22}+1) - Z_{12}Z_{21}}$	$S_{11} = \frac{(1-Y_{11})(1+Y_{22}) + Y_{12}Y_{21}}{(1+Y_{11})(1+Y_{22}) - Y_{12}Y_{21}}$ $S_{12} = \frac{-2Y_{12}}{(1+Y_{11})(1+Y_{22}) - Y_{12}Y_{21}}$ $S_{21} = \frac{-2Y_{21}}{(1+Y_{11})(1+Y_{22}) - Y_{12}Y_{21}}$ $S_{22} = \frac{(1+Y_{11})(1-Y_{22}) + Y_{12}Y_{21}}{(1+Y_{11})(1+Y_{22}) - Y_{12}Y_{21}}$	$S_{11} = \frac{(h_{11}-1)(h_{22}+1) - h_{12}h_{21}}{(h_{11}+1)(h_{22}+1) - h_{12}h_{21}}$ $S_{12} = \frac{2h_{12}}{(h_{11}+1)(h_{22}+1) - h_{12}h_{21}}$ $S_{21} = \frac{-2h_{21}}{(h_{11}+1)(h_{22}+1) - h_{12}h_{21}}$ $S_{22} = \frac{(1+h_{11})(1-h_{22}) + h_{12}h_{21}}{(h_{11}+1)(h_{22}+1) - h_{12}h_{21}}$	$S_{11} = \frac{A+B-C-D}{A+B+C+D}$ $S_{12} = \frac{2(AD-BC)}{A+B+C+D}$ $S_{21} = \frac{2}{A+B+C+D}$ $S_{22} = \frac{-A+B-C+D}{A+B+C+D}$
Z	$Z_{11} = \frac{(1+S_{11})(1-S_{22}) + S_{12}S_{21}}{(1-S_{11})(1-S_{22}) - S_{12}S_{21}}$ $Z_{12} = \frac{2S_{12}}{(1-S_{11})(1-S_{22}) - S_{12}S_{21}}$ $Z_{21} = \frac{2S_{21}}{(1-S_{11})(1-S_{22}) - S_{12}S_{21}}$ $Z_{22} = \frac{(1-S_{11})(1+S_{22}) + S_{12}S_{21}}{(1-S_{11})(1-S_{22}) - S_{12}S_{21}}$	$\begin{pmatrix} V_1 \\ V_2 \end{pmatrix} = \begin{bmatrix} Z_{11} & Z_{12} \\ Z_{21} & Z_{22} \end{bmatrix} \begin{pmatrix} I_1 \\ I_2 \end{pmatrix}$	$Z_{11} = \frac{Y_{22}}{\Delta^Y}$ $Z_{12} = \frac{-Y_{12}}{\Delta^Y}$ $Z_{21} = \frac{-Y_{21}}{\Delta^Y}$ $Z_{22} = \frac{Y_{11}}{\Delta^Y}$	$Z_{11} = \frac{\Delta^h}{h_{22}}$ $Z_{12} = \frac{h_{12}}{h_{22}}$ $Z_{21} = \frac{-h_{12}}{h_{22}}$ $Z_{22} = \frac{1}{h_{22}}$	$Z_{11} = \frac{A}{C}$ $Z_{12} = \frac{\Delta^A}{C}$ $Z_{21} = \frac{1}{C}$ $Z_{22} = \frac{D}{C}$
Y	$Y_{11} = \frac{(1-S_{11})(1+S_{22}) + S_{12}S_{21}}{(1+S_{11})(1+S_{22}) - S_{12}S_{21}}$ $Y_{12} = \frac{-2S_{12}}{(1+S_{11})(1+S_{22}) - S_{12}S_{21}}$ $Y_{21} = \frac{-2S_{21}}{(1+S_{11})(1+S_{22}) - S_{12}S_{21}}$ $Y_{22} = \frac{(1+S_{11})(1-S_{22}) + S_{12}S_{21}}{(1+S_{11})(1+S_{22}) - S_{12}S_{21}}$	$Y_{11} = \frac{Z_{22}}{\Delta^Z}$ $Y_{12} = \frac{-Z_{12}}{\Delta^Z}$ $Y_{21} = \frac{-Z_{21}}{\Delta^Z}$ $Y_{22} = \frac{Z_{11}}{\Delta^Z}$	$\begin{pmatrix} I_1 \\ I_2 \end{pmatrix} = \begin{bmatrix} Y_{11} & Y_{12} \\ Y_{21} & Y_{22} \end{bmatrix} \begin{pmatrix} V_1 \\ V_2 \end{pmatrix}$	$Y_{11} = \frac{1}{h_{11}}$ $Y_{12} = \frac{-h_{12}}{h_{11}}$ $Y_{21} = \frac{h_{21}}{h_{11}}$ $Y_{22} = \frac{\Delta^h}{h_{11}}$	$Y_{11} = \frac{D}{B}$ $Y_{12} = \frac{-\Delta^A}{B}$ $Y_{21} = \frac{-1}{B}$ $Y_{22} = \frac{A}{B}$
H	$h_{11} = \frac{(1+S_{11})(1+S_{22}) - S_{12}S_{21}}{(1-S_{11})(1+S_{22}) + S_{12}S_{21}}$ $h_{12} = \frac{2S_{12}}{(1-S_{11})(1+S_{22}) + S_{12}S_{21}}$ $h_{21} = \frac{-2S_{21}}{(1-S_{11})(1+S_{22}) + S_{12}S_{21}}$ $h_{22} = \frac{(1-S_{11})(1-S_{22}) - S_{12}S_{21}}{(1-S_{11})(1+S_{22}) + S_{12}S_{21}}$	$h_{11} = \frac{\Delta^Z}{Z_{22}}$ $h_{12} = \frac{Z_{12}}{Z_{22}}$ $h_{21} = \frac{-Z_{21}}{Z_{22}}$ $h_{22} = \frac{1}{Z_{22}}$	$h_{11} = \frac{1}{Y_{11}}$ $h_{12} = \frac{-Y_{12}}{Y_{11}}$ $h_{21} = \frac{Y_{21}}{Y_{11}}$ $h_{22} = \frac{\Delta^Y}{Y_{11}}$	$\begin{pmatrix} V_1 \\ I_2 \end{pmatrix} = \begin{bmatrix} h_{11} & h_{12} \\ h_{21} & h_{22} \end{bmatrix} \begin{pmatrix} I_1 \\ V_2 \end{pmatrix}$	$h_{11} = \frac{B}{D}$ $h_{12} = \frac{\Delta^A}{D}$ $h_{21} = \frac{-1}{D}$ $h_{22} = \frac{C}{D}$
A	$A = \frac{(1+S_{11})(1-S_{22}) + S_{12}S_{21}}{2S_{21}}$ $B = \frac{(1+S_{11})(1+S_{22}) - S_{12}S_{21}}{2S_{21}}$ $C = \frac{(1-S_{11})(1-S_{22}) - S_{12}S_{21}}{2S_{21}}$ $D = \frac{(1-S_{11})(1+S_{22}) + S_{12}S_{21}}{2S_{21}}$	$A = \frac{Z_{11}}{Z_{21}}$ $B = \frac{\Delta^Z}{Z_{21}}$ $C = \frac{1}{Z_{21}}$ $D = \frac{Z_{22}}{Z_{21}}$	$A = \frac{-Y_{22}}{Y_{21}}$ $B = \frac{-1}{Y_{21}}$ $C = \frac{-\Delta^Y}{Y_{21}}$ $D = \frac{-Y_{11}}{Y_{21}}$	$A = \frac{-\Delta^h}{h_{21}}$ $B = \frac{-h_{11}}{h_{21}}$ $C = \frac{-h_{22}}{h_{21}}$ $D = \frac{-1}{h_{21}}$	$\begin{pmatrix} V_1 \\ I_1 \end{pmatrix} = \begin{bmatrix} A & B \\ C & D \end{bmatrix} \begin{pmatrix} V_2 \\ -I_2 \end{pmatrix}$

* : G. D. VENDELIN, "Design of amplifiers and oscillators by the S-parameter method", John Wiley