

~~Zweigliedrige Schaltung Ω , Ω' . Directe Raum - Verwandlung~~

$$\begin{aligned} \alpha_1 &= \alpha_{1,1}\omega_1 + \alpha_{2,1}\omega_2 & \alpha'_1 &= \alpha_{1,1}\omega'_1 + \alpha_{2,1}\omega'_2 & \alpha\omega'_1 &= \alpha_{2,2}\alpha'_1 - \alpha_{1,1}\alpha'_2 \\ \alpha_2 &= \alpha_{1,2}\omega_1 + \alpha_{2,2}\omega_2 & \alpha'_2 &= \alpha_{1,2}\omega'_1 + \alpha_{2,2}\omega'_2 & \alpha\omega'_2 &= \alpha_{1,2}\alpha'_1 + \alpha_{2,1}\alpha'_2 \\ \text{Abgleich} & & \alpha' &= \alpha\omega' & & \end{aligned}$$

~~$\omega'' = \varepsilon\omega'$~~

~~$\alpha'' = A\omega'' = A\varepsilon\omega' = A\varepsilon A^{-1}\alpha'$~~

~~$\begin{aligned} \omega''_1 &= e_{1,1}\omega'_1 + e_{2,1}\omega'_2 \\ \omega''_2 &= e_{1,2}\omega'_1 + e_{2,2}\omega'_2 \end{aligned} \quad \left. \begin{aligned} \alpha''_1 &= \alpha_{1,1}e_{1,1} + \alpha_{2,1}e_{2,1} \\ \alpha''_2 &= \alpha_{1,2}e_{1,2} + \alpha_{2,2}e_{2,2} \end{aligned} \right\} e_{1,1}e_{2,2} - e_{2,1}e_{1,2} = c = \pm 1$~~

~~$\alpha_{1,1}\alpha_{2,2} - \alpha_{2,1}\alpha_{1,2} = c\omega$~~

~~$\begin{aligned} \alpha''_1 &= \alpha_{1,1}(e_{1,1}\omega'_1 + e_{2,1}\omega'_2) + \alpha_{2,1}(e_{1,2}\omega'_1 + e_{2,2}\omega'_2) \\ \alpha\alpha''_1 &= (\alpha_{1,1}e_{1,1} + \alpha_{2,1}e_{1,2})(\alpha_{2,2}\alpha'_1 - \alpha_{2,1}\alpha'_2) + (\alpha_{1,1}e_{2,1} + \alpha_{2,1}e_{2,2})(-\alpha_{1,2}\alpha'_1 + \alpha_{1,1}\alpha'_2) \\ &= (\alpha_{1,1}\alpha_{2,2}e_{1,1} + \alpha_{2,1}\alpha_{2,2}e_{1,2} - \alpha_{1,1}\alpha_{1,2}e_{2,1} - \alpha_{2,1}\alpha_{1,2}e_{2,2})\alpha'_1 \\ &\quad + (\alpha_{1,1}\alpha_{2,1}e_{1,1} - \alpha_{2,1}\alpha_{2,1}e_{1,2} + \alpha_{1,1}\alpha_{1,1}e_{2,1} + \alpha_{2,1}\alpha_{1,1}e_{1,2})\alpha'_2 \end{aligned}$~~

~~$\left\{ \begin{array}{l} \alpha_1 = \alpha_{1,1}\omega_1 + \alpha_{1,2}\omega_2 \\ \alpha_2 = \alpha_{2,1}\omega_1 + \alpha_{2,2}\omega_2 \end{array} \right. \quad \left\{ \begin{array}{l} \alpha'_1 = \alpha_{2,2}\omega_1 - \alpha_{2,1}\omega_2 \\ \alpha'_2 = -\alpha_{1,2}\omega_1 + \alpha_{1,1}\omega_2 \end{array} \right. \quad \begin{aligned} \alpha' &= [\alpha'_1 \quad \alpha'_2] = [\alpha'_2 \quad -\alpha'_1] \\ a &= \alpha_{1,1}\alpha_{2,2} - \alpha_{1,2}\alpha_{2,1} & & = [A(\omega'_2 \quad -\omega'_1)] \end{aligned}$~~

~~$\begin{aligned} \beta_1 &= b_{1,1}\omega_1 + b_{1,2}\omega_2 & b\beta'_1 &= b_{2,2}\omega'_1 - b_{2,1}\omega'_2 \\ \beta_2 &= b_{2,1}\omega_1 + b_{2,2}\omega_2 & b\beta'_2 &= -b_{1,2}\omega'_1 + b_{1,1}\omega'_2 \\ b &= b_{1,1}b_{1,2} - b_{1,2}b_{2,1} & & \end{aligned}$~~

~~$\frac{\alpha}{a} + \frac{b}{b} = [\beta_1 \quad \beta_2] \quad \text{folgt} \quad \alpha' + b' = [c_{1,1}\omega'_2 - c_{1,2}\omega'_1, c_{2,1}\omega'_2 - c_{2,2}\omega'_1]$~~

~~$\begin{aligned} \beta_1 &= c_{1,1}\omega_1 + c_{1,2}\omega_2 \\ \beta_2 &= c_{2,1}\omega_1 + c_{2,2}\omega_2 \end{aligned} \quad \text{folge} \quad = [-c_{1,2}\omega'_1 + c_{1,1}\omega'_2; c_{2,2}\omega'_1 + c_{2,1}\omega'_2]$~~

~~$\alpha - b = [c_{2,1}\omega_1 + c_{2,2}\omega_2 \quad c_{1,1}\omega_1 - c_{1,2}\omega_2]$~~

~~$c(\alpha - b) = \frac{\alpha}{a} + \frac{b}{b}$~~

~~a, b, c, v~~

~~$a = \frac{(v, \alpha)}{(\alpha, \alpha)} ; b = \frac{(v, b)}{(b, b)} ; \alpha = a\alpha_1 ; b = b\beta_1, \quad \frac{(v, a_1 + b_1)}{(a_1 + b_1, v)} = c$~~

~~$\frac{(v, \alpha_1)}{(\alpha_1, v)} = \frac{1}{a} ; \frac{(v, b_1)}{(b_1, v)} = \frac{1}{b}$~~

~~$\frac{(v\alpha, v\alpha)}{(v\alpha, v\alpha)} = \left(\frac{v}{a} \right)^2 \cdot \left(\frac{v}{b} \right) \quad \left| \begin{array}{l} (v, \alpha_1)(\alpha_1, \alpha_1 + b_1)(\alpha_1 + b_1, v) \\ = (\alpha_1, v)(\alpha_1 + b_1, \alpha_1)(v, \alpha_1 + b_1) \end{array} \right.$~~

~~$\alpha b = \alpha b$~~

~~$\alpha b = (a_1, b_1)\alpha +$~~

~~$\alpha - b = (b_1, a_1)\alpha + (a_1, b_1)b$~~

$$\frac{1}{a} \cdot \frac{1}{b} = \frac{(a_1 + b_1, \alpha_1)}{(\alpha_1, \alpha_1 + b_1)} = (a_1 + b_1, \alpha_1) = (b_1, a_1)$$

~~# $\frac{1}{bc} = (a_1, b_1)$~~

Braunschweig, den 18/10. 1890

Herrn Professor St. R. Dedekind

Von den Ihnen von mir zur geneigten Ansicht übersandten Werken haben Sie wahrscheinlich die Güte gehabt, für Ihre Rechnung zu behalten:

1890. Januar 8. Band 1. Klappentext
J. 1. M. 1. 60

Freundlichst erouche ich Sie um bald gefällige Nachricht deshalb, event. ob ich die Fortsetzung davon bestellen darf, und welche, mich Ihrem ferneren Wohlwollen bestens empfehlend

hochachtungsvoll und ergebenst

Friedrich Wagner,

Herzogl. Hof-Buchhandlung und Antiquariat.