$$U_1^+(G_5+G_6) - G_5 U_{in} - U_2 G_6 = \phi$$

$$U_1^-(G_4+G_3) - G_4 U_1 - G_3 U_3 = \phi$$

~~$U_2^-(G_1+SC_1) - U_1 G_1 - U_2 SC_1 = \phi$~~

~~$U_3(G_2+SC_2) - U_2 G_2 - U_3 SC_2 = \phi$~~

$$-U_2 \frac{SC_1}{G_1} = U_1 \qquad -U_2 \frac{G_2}{SC_2} = U_3$$

$$\frac{S^2 C_1 C_2}{G_1 G_2} \cdot U_3 = U_1$$

$$U_1^- = \frac{G_4 U_1 + G_3 U_3}{G_4 + G_3} = U_1^+ = \frac{G_5 U_{in} + U_2 G_6}{G_5 + G_6}$$

$$\left(\frac{G_4 \frac{S^2 C_1 C_2}{G_1 G_2} + G_3}{G_4 + G_3}\right) U_3 = \frac{G_5 U_{in} - \frac{G_6 U_3 SC_2}{G_2}}{G_5 + G_6}$$

$$\left\{\frac{G_5+G_6}{G_4+G_3}\left[G_4 \frac{S^2 C_1 C_2}{G_1 G_2} + G_3\right] + \frac{G_6}{G_2} SC_2\right\} U_3 = G_5 U_{in}$$

$$\frac{U_3}{U_{in}} = \frac{G_5}{\frac{G_5+G_6}{G_4+G_3}\left[G_4 \frac{S^2 C_1 C_2}{G_1 G_2} + G_3\right] + \frac{G_6}{G_2} SC_2}$$

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$$\frac{U_3}{U_{in}} = \frac{G_5\left(\frac{G_4+G_3}{G_5+G_6}\right)}{S^2\frac{C_1C_2}{G_1G_2} + \frac{G_4+G_3}{G_5+G_6} + S\frac{C_2}{G_2}\left(\frac{G_4+G_3}{G_5+G_6}\right)}$$

$$\frac{U_3}{U_{in}} = \frac{\frac{G_1G_2G_5}{G_4C_1C_2}\left(\frac{G_4+G_3}{G_5+G_6}\right)\frac{G_3}{G_3}}{S^2 + S\frac{G_1G_6}{G_4C_1}\left(\frac{G_4+G_3}{G_5+G_6}\right) + \underbrace{\frac{G_3G_1G_2}{G_4C_1C_2}}_{\omega_0^2}}$$

$$\frac{U_3}{U_{in}} = \frac{\frac{G_5}{G_3}\left(\frac{G_4+G_3}{G_5+G_6}\right)\cdot\omega_0^2}{S^2 + \omega_0^2 + S\underbrace{\frac{G_1G_2}{G_4C_1}\left(\frac{G_4+G_3}{G_5+G_6}\right)}_{\frac{\omega_0}{Q}}}$$

$$\omega_0^2 = \frac{G_3G_1G_2}{G_4C_1C_2}$$

$$K = \frac{G_5}{G_3}\left(\frac{G_4+G_3}{G_5+G_6}\right)$$

$$\frac{\omega_0}{Q} = \frac{G_1G_6}{G_4C_1}\left(\frac{G_4+G_3}{G_5+G_6}\right)$$

Propongo

$G_5 = G_3 \wedge G_4 = G_6$

$K = 1 \wedge G_1 = \frac{1}{Q} \wedge G_2 = Q$

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