

$$\begin{aligned}
TP &= \begin{pmatrix} \frac{ZT_p}{\overline{ZT_p+2 \cdot Z0}} & \frac{2 \cdot Z0}{\overline{ZT_p+2 \cdot Z0}} \\ \frac{2 \cdot Z0}{\overline{ZT_p+2 \cdot Z0}} & \frac{ZT_p}{\overline{ZT_p+2 \cdot Z0}} \end{pmatrix} \\
TM &= \begin{pmatrix} \frac{ZT_m}{\overline{ZT_m+2 \cdot Z0}} & \frac{2 \cdot Z0}{\overline{ZT_m+2 \cdot Z0}} \\ \frac{2 \cdot Z0}{\overline{ZT_m+2 \cdot Z0}} & \frac{ZT_m}{\overline{ZT_m+2 \cdot Z0}} \end{pmatrix} \\
RP &= \frac{ZR_p - Z0}{ZR_p + Z0} \\
RM &= \frac{ZR_m - Z0}{ZR_m + Z0} \\
\mathbf{Si} &= \left[ \mathbb{I} - \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & X_{11} & 0 & X_{12} & X_{13} & X_{14} & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & X_{21} & 0 & X_{22} & X_{23} & X_{24} & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & X_{31} & 0 & X_{32} & X_{33} & X_{34} & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & X_{41} & 0 & X_{42} & X_{43} & X_{44} & 0 & 0 & 0 \\ TP_{12} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & TP_{11} & 0 \\ TP_{22} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & TP_{21} \\ 0 & TM_{12} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & TM_{11} \\ 0 & TM_{22} & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & TM_{21} \\ 0 & 0 & RP & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & RM & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & -1 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix} \right]^{-1} \\
\begin{pmatrix} X_3 \\ X_4 \\ X_1 \\ X_2 \end{pmatrix} &= \begin{pmatrix} Si_{3,12}+Si_{9,12} & Si_{3,13}+Si_{9,13} \\ Si_{4,12}+Si_{10,12} & Si_{4,13}+Si_{10,13} \\ Si_{1,12}+Si_{6,12} & Si_{1,13}+Si_{6,13} \\ Si_{2,12}+Si_{8,12} & Si_{2,13}+Si_{8,13} \end{pmatrix} \cdot \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \cdot \begin{pmatrix} V_1 \\ V_2 \end{pmatrix}
\end{aligned}$$