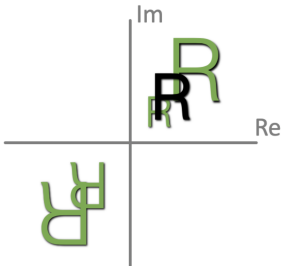


1-channel Real

Scale

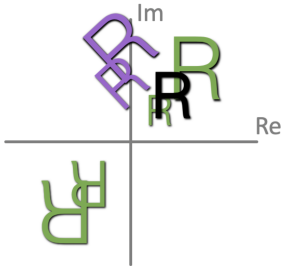


$$Z_{out} = W Z_{in}$$

$$\begin{bmatrix} x_{out} \\ y_{out} \end{bmatrix} = m \begin{bmatrix} x_{in} \\ y_{in} \end{bmatrix}$$

Complex

Scale, rotate

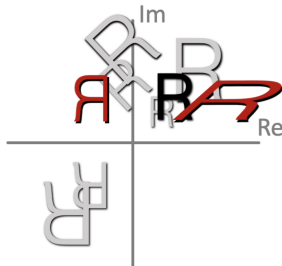


$$Z_{out} = W Z_{in}, \quad W = m e^{i\theta}$$

$$\begin{bmatrix} x_{out} \\ y_{out} \end{bmatrix} = \begin{bmatrix} m \cos \theta & -m \sin \theta \\ m \sin \theta & m \cos \theta \end{bmatrix} \begin{bmatrix} x_{in} \\ y_{in} \end{bmatrix}$$

2-channel Real

Scale, rotate, reflect, shear



$$Z_{out} = W Z_{in}$$

$$\begin{bmatrix} x_{out} \\ y_{out} \end{bmatrix} = \begin{bmatrix} w_{1,1} & w_{1,2} \\ w_{2,1} & w_{2,2} \end{bmatrix} \begin{bmatrix} x_{in} \\ y_{in} \end{bmatrix}$$