行列の成分の盲点

行列が$\begin{pmatrix} a & -b \\ b & a \end{pmatrix}$のとき,

$$\begin{pmatrix} a & -b \\ b & a \end{pmatrix} = \sqrt{a^2+b^2}\begin{pmatrix} \dfrac{a}{\sqrt{a^2+b^2}} & -\dfrac{b}{\sqrt{a^2+b^2}} \\ \dfrac{b}{\sqrt{a^2+b^2}} & \dfrac{a}{\sqrt{a^2+b^2}} \end{pmatrix}$$

$$= \sqrt{a^2+b^2}\begin{pmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{pmatrix}$$