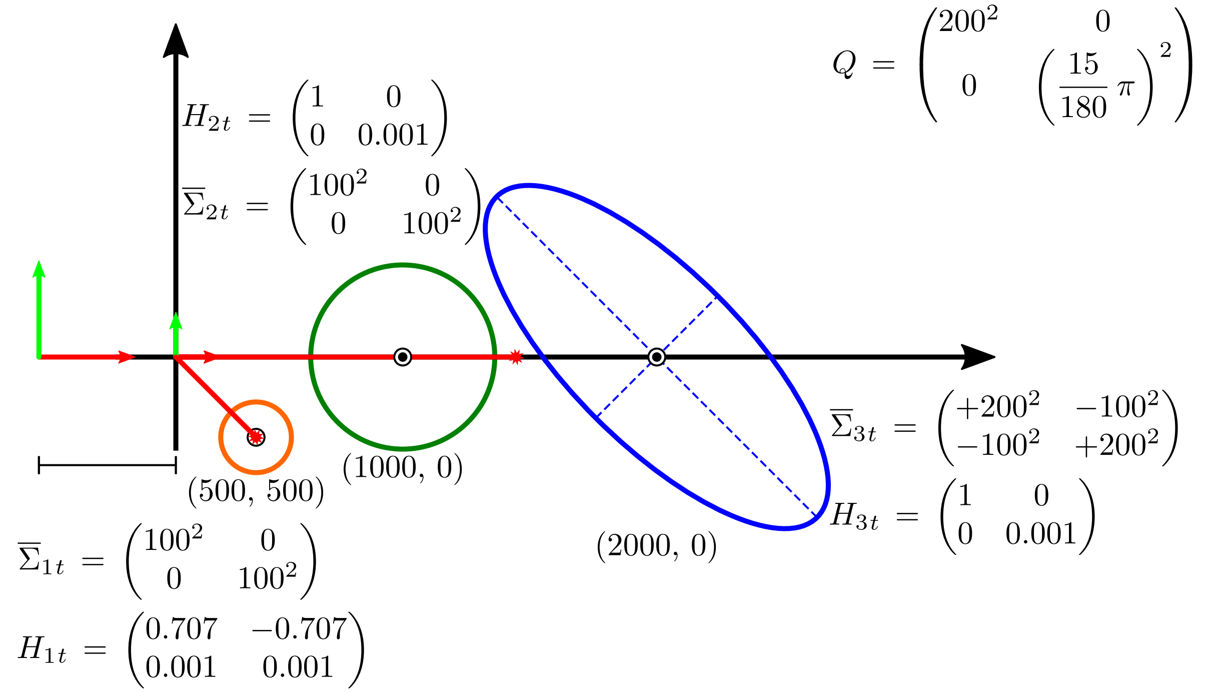

$$Q_{j_t} = H_{j_t} \cdot \overline{\Sigma}_{j_t} \cdot {H_{j_t}}^T + Q$$

$$Q_{1t} = \begin{pmatrix} 5 \cdot 10^4 & 0 \\ 0 & 0.089 \end{pmatrix} \qquad Q_{2t} = \begin{pmatrix} 5 \cdot 10^4 & 0 \\ 0 & 0.079 \end{pmatrix} \qquad Q_{3t} = \begin{pmatrix} 8 \cdot 10^4 & -5 \\ -5 & 0.079 \end{pmatrix}$$

$$\vec{z}_{1t} = \begin{pmatrix} 500\sqrt{2} \\ \arctan(1) \end{pmatrix} = \begin{pmatrix} 707.107 \\ 45^\circ \end{pmatrix} \qquad \hat{\vec{z}}_{1t} = \begin{pmatrix} 500\sqrt{2} \\ \arctan(1) \end{pmatrix} = \begin{pmatrix} 707.107 \\ 45^\circ \end{pmatrix}$$

$$\vec{z}_{2t} = \begin{pmatrix} 1500 \\ 0 \end{pmatrix} \qquad \hat{\vec{z}}_{2t} = \begin{pmatrix} 1000 \\ 0 \end{pmatrix}$$

$$\hat{\vec{z}}_{3t} = \begin{pmatrix} 2000 \\ 0 \end{pmatrix}$$

$$\mathscr{L}_{jit} = \frac{1}{2\pi\sqrt{|Q_{jt}|}} e^{-\frac{1}{2}\left(\vec{z}_{it} - \hat{\vec{z}}_{jt}\right)^T \cdot Q_{jt}^{-1} \cdot \left(\vec{z}_{it} - \hat{\vec{z}}_{jt}\right)}$$

$$\mathscr{L}_{11} = 0.002 \qquad \mathscr{L}_{21} = 2.122 \cdot 10^{-5} \qquad \mathscr{L}_{31} = 1.366 \cdot 10^{-7}$$

$$\mathscr{L}_{12} = 1.366 \cdot 10^{-7} \qquad \mathscr{L}_{22} = 0.000208 \qquad \mathscr{L}_{32} = 0.000419$$