

Problem 3

$$f_3^*$$

\leq

Problem 4

$$f_4^*$$

$$\mathbf{A}^*$$

Problem 1 (\mathbf{P} is given)

$$\mathbf{V}^* = \mathbf{P}(\mathbf{A}^*)^{-1}$$

$$f_1^* \propto \text{abs} \left(\left\| \begin{bmatrix} (\mathbf{V}^*)^T & \mathbf{1} \end{bmatrix} \right\| \right)$$

Problem 2 (\mathbf{V} is given)

$$\mathbf{P}^* = \mathbf{V} \mathbf{A}^*$$

$$f_2^* \propto -\text{abs} \left(\left\| \begin{bmatrix} \mathbf{P}^* \\ \mathbf{e}_n^T \end{bmatrix} \right\| \right)$$