$$\min_{u \in \mathbb{R}^6} \quad u^T \Biggl(\sum_i \begin{bmatrix} x_i \times \hat{n_i} \\ \hat{n_i} \end{bmatrix} \left[(x_i \times \hat{n_i})^T \quad \hat{n_i}^T \right] \Biggr) u - 2u^T \Biggl(\sum_i \begin{bmatrix} x_i \times \hat{n_i} \\ \hat{n_i} \end{bmatrix} \hat{n_i}^T (p_i - x_i) \Biggr) + \sum_i (p_i - x_i)^T \hat{n_i} \hat{n_i}^T (p_i - x_i) \Biggr) + \sum_i (p_i - x_i)^T \hat{n_i} \hat{n_i}^T (p_i - x_i) \Biggr) + \sum_i (p_i - x_i)^T \hat{n_i} \hat{n_i}^T (p_i - x_i) \Biggr)$$

where

 $x_i \in \mathbb{R}^3$

 $\hat{n_i} \in \mathbb{R}^3$ $p_i \in \mathbb{R}^3$