$$\min_{u \in \mathbb{R}^6} \quad u^T \left(\sum_i \begin{bmatrix} x_i \times \hat{n}_i \\ \hat{n}_i \end{bmatrix} \begin{bmatrix} (x_i \times \hat{n}_i)^T & \hat{n}_i^T \end{bmatrix} \right) u - 2u^T \left(\sum_i \begin{bmatrix} x_i \times \hat{n}_i \\ \hat{n}_i \end{bmatrix} \hat{n}_i^T \left(p_i - x_i \right) \right) + \sum_i \left(p_i - x_i \right)^T \hat{n}_i \hat{n}_i^T \left(p_i -$$

where

- $x_i \in \mathbb{R}^3$
- $\hat{n}_i \in \mathbb{R}^3$
- $p_i \in \mathbb{R}^3$