$$
J(\mathbf{x})=|\mathbf{B}-\mathbf{A} \mathbf{x}|^{2}+\mathbf{x}^{T}\left(u_{1}^{2} \mathbf{H}_{1}+u_{2}^{2} \mathbf{H}_{2}+u_{3}^{2} \mathbf{H}_{3}\right) \mathbf{x}
$$

