$$\boldsymbol{\mu}^{(k+1)} \leftarrow \boldsymbol{\mu}^{(k)} + \alpha^{(k)} \sum_{i=1}^{N} \Sigma^{-1} \left(\hat{f}(\mathbf{z}_i)\mathbf{z}_i - \boldsymbol{\mu}^{(k)} \right),$$

$$\boldsymbol{s}^{(k+1)} \leftarrow \boldsymbol{s}^{(k)} + \frac{\alpha^{(k)}}{2} \operatorname{vech} \left(S^{-\top} \left(\sum_{i=1}^{N} \hat{f}(\mathbf{z}_i)\boldsymbol{u}_i\boldsymbol{u}_i^{\top} - \mathbb{I}_n \right) \right),$$