

$$\frac{1}{2}d, W_kd$$

$$\frac{1}{2t_k}\|d\|^2$$

$$vqri-$$

$$able$$

$$met-$$

$$ric$$

$$dyn-$$

$$dle$$

$$meth-$$

$$gds$$

$$??$$

$$??$$

$$??$$

$$??$$

$$??$$

$$\frac{1}{2}\|d\|^2$$

$$W_k$$

$$k$$

$$\min_{\hat{x}^k+d\in^n} M_k(\hat{x}^k+$$

$$d)+$$

$$\mathbf{i}_X(\hat{x}^k+$$

$$d)+$$

$$\frac{1}{2}d, W_kd.$$

$$??$$

$$??$$

$$W_k$$

$$?$$

$$,e$$

$$\hat{a}$$

$$s$$

$$s$$

$$s$$

$$W_k$$

$$?$$

$$?$$

$$?$$

$$\Phi(x,\hat{x})=\phi(x,\hat{x})+\frac{1}{2}x-\hat{x},Q(\hat{x})(x-\hat{x})$$

$$(1)$$

$$\phi(\cdot,\hat{x})$$

$$\frac{1}{2}.$$

$$-\hat{x},Q(\hat{x})(\cdot-$$

$$\hat{x})$$

$$\min_{\hat{x}^k+d} m?k(\hat{x}^k+$$

$$d)+$$

$$\frac{1}{2}d,Q(\hat{x}^k)d+$$

$$\frac{1}{2t_k}\|d\|^2$$

$$m_k$$

$$??$$

$$\phi$$

$$Q(\hat{x}^k)$$

$$?$$

$$\hat{x}^k):=$$

$$Q_k=$$

$$Q_k^{\dagger}and-$$

$$qI\prec$$

$$Q_k\prec$$

$$qIforq>$$

$$0.$$

$$A\prec$$

$$B$$

$$A,B\in^{n\times n}$$

$$(B-$$

$$A)$$

$$Q_k$$

$$k$$

$$\min_{\hat{x}^k+d\in X} M_k(\hat{x}^k+d)+\frac{1}{2}d,\left(Q_k+\frac{1}{t_k}I\right)d.$$

$$(2)$$

$$W_k=$$

$$Q_k+$$

$$\frac{1}{t_k}I$$

$$Q_k$$

$$??$$

$$??$$

$$??$$

$$??$$

$$??$$

$$\delta_k$$

$$??$$

$$\in$$

$$\partial M_k(x^{k+1})+$$