

$$v_i^* \frac{\partial h_i}{\partial \mathbf{x}_k} + \sum_{j=1}^m u_j^* \frac{\partial g_j}{\partial \mathbf{x}_k} = 0$$
$$\mathbf{x}^{(k+1)} = \mathbf{x}^{(k)} + \alpha_k \mathbf{d}^{(k)}$$
$$\Phi_{k+1,j} \leq \Phi_k - t_j \beta_k$$
$$\Phi(\mathbf{x}, r) = f(\mathbf{x}) + \sum_{i=1}^p \left[ v_i h_i(\mathbf{x}) + \frac{1}{2} r h_i^2(\mathbf{x}) \right]$$

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