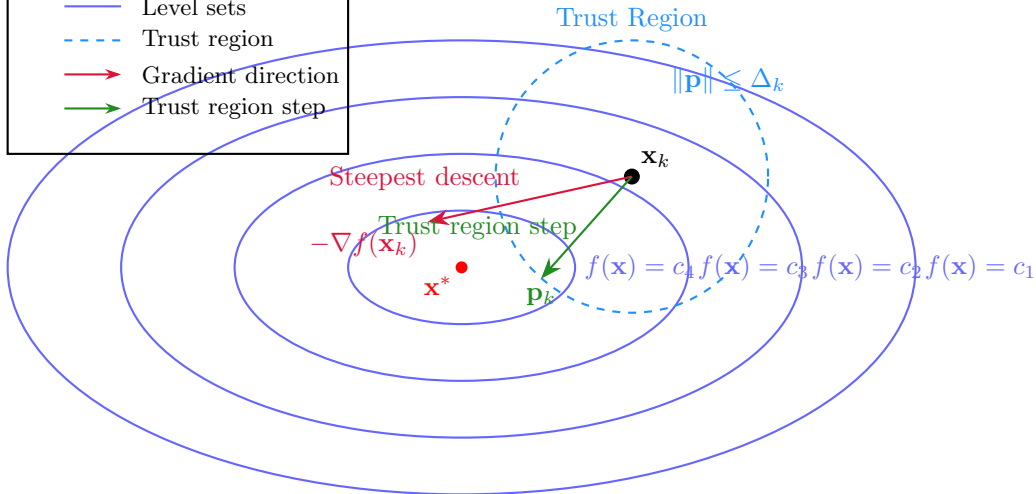


Trust Region Method

Legend:

- Level sets
- - - Trust region
- Gradient direction
- Trust region step



Trust region subproblem: $\min_{\mathbf{p}} m_k(\mathbf{p}) = f_k + \mathbf{g}_k^T \mathbf{p} + \frac{1}{2} \mathbf{p}^T \mathbf{B}_k \mathbf{p}$
 subject to $\|\mathbf{p}\| \leq \Delta_k$