

$$\mathbf{x}^0 = [\mathbf{a}^0, \mathbf{q}^0]$$

 \mathbb{P}_2

Linearize
 \mathbf{g}_{buck} at
point \mathbf{P}_i

 $\tilde{\mathbf{g}}_{\text{buck}}$

Solve
linearized
problem $\tilde{\mathbb{P}}_2$

 \mathbf{x}^{i+1}

No

$$\|\Delta \mathbf{x}\|_{\infty} \leq \text{tol}_{slp}$$

Yes

Yes

$$k \leq k_{\max}$$

No

Reinitialization

 $\bar{\mathbf{a}}^i$
 k_{++}

$$\tilde{\mathbf{x}}^* = [\tilde{\mathbf{a}}^*, \tilde{\mathbf{q}}^*]$$

