

Base manipulability
space

$$\begin{aligned} q_{\min} &\leq q \leq q_{\max} \\ \dot{q}_{\min} &\leq \dot{q} \leq \dot{q}_{\max} \\ \tau_{\min} &\leq \tau \leq \tau_{\max} \end{aligned}$$

$$d \geq d_{\min}$$

$$v_{ee} = 0$$

$$f \in \text{Friction cone}$$

$$\overline{CoM} \in \mathcal{S}$$

Boston Dynamics