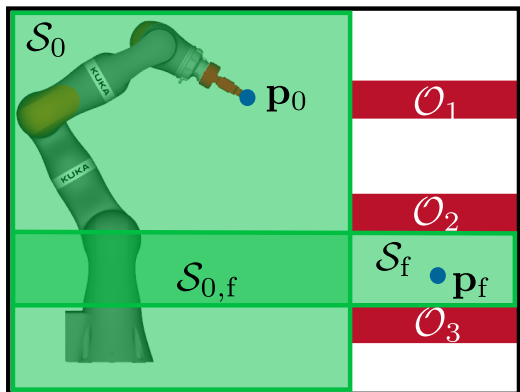
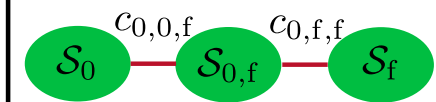


(a) Obstacles and convex sets

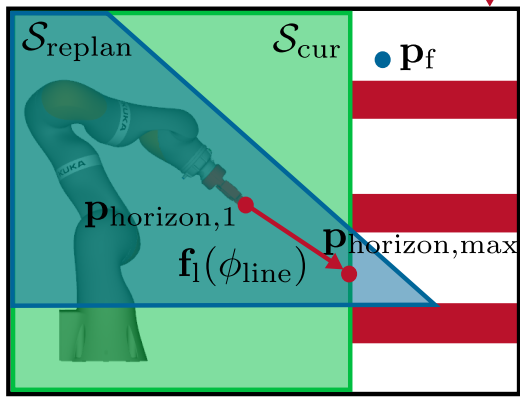
(b) Graph \mathcal{G} 

(e) Horizon splitting

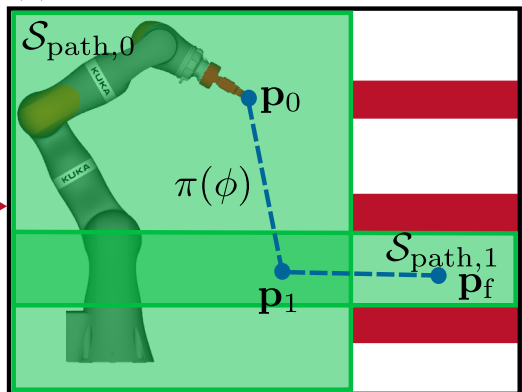
$$\mathbf{p}_{\text{horizon},m} \in \mathcal{S}_{\text{path},0}, m < m_s$$

$$\mathbf{p}_{\text{horizon},m} \in \mathcal{S}_{\text{path},1}, m \geq m_s$$

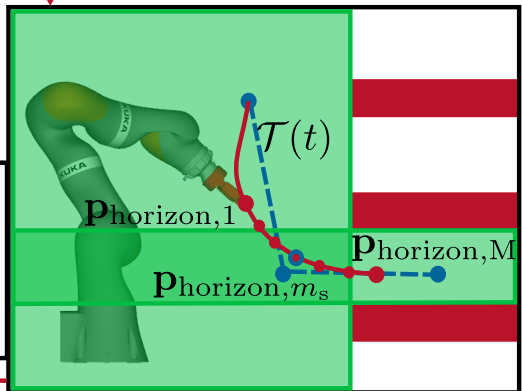
(f) Replanning to new goal



(c) Path planner with set bounds



(d) BoundMPC trajectory planner



(g) Proceeding to new goal

