Multi-Fidelity Receding Horizon Planning for Multi-Contact Locomotion

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- Planning uneven terrain locomotion requires multiple steps lookahead. But do we need accurate modeling for the entire horizon (computationally expensive)?
- We find the first step (to be executed) requires accurate modeling, while the rest can use convex approximations.
- However, angular dynamics should be incorporated.
- Result: \textbf{Multi-fidelity} Receding Horizon Planning, avg. 2.4x faster than the single-fidelity counterparts for planning centroidal trajectories.