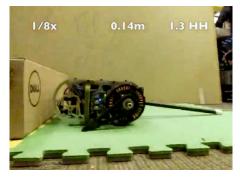
Hybrid self-manipulation systems

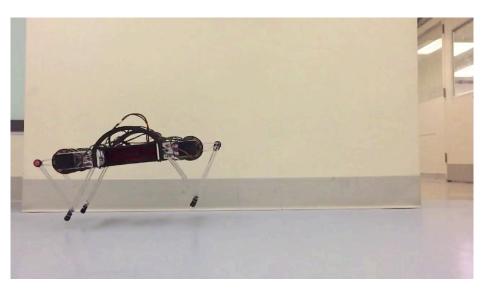




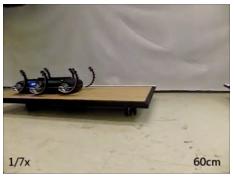


Johnson et al. [2015], Burden et al. [2015].

Minitaur leaping



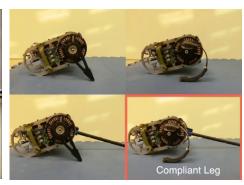
RHex and Jerboa leaping



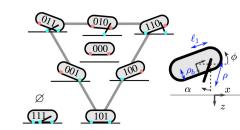
https://www.youtube.com/watch?v=kV9J-oayCBU

From Johnson and Koditschek [2013], Brill et al. [2015],

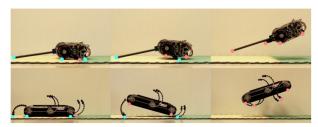
- Hybrid system with many modes, simultaneous transitions
- Organize into "ground reaction complex"



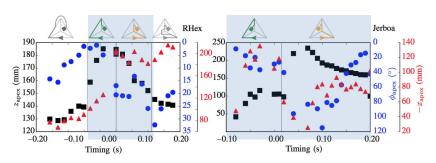
https://www.youtube.com/watch?v=0p-ye6bSqbc



Leaping: stability and convergence



When do RHex, Jerboa leap "the same"?—Brill et al. [2015]



Summary

- Transitions go through various hybrid modes
- Some transitions are nicer than others
- Minitaur leaps using parallel composition
- RHex and Jerboa leap using the ground reaction complex