

- Human motion in frontal plane modeled as four-bar linkage (see Figure 1) in order to look at stability across stance ratios (stance width/ hip width)
- Support surface is perturbed, and using feedback control (proportional-derivative controller) hip-torques are applied to counteract the perturbation
- Run the file “runFourBar.m” with the default parameter values
 - The figure that is created contains two subplots:
 - The horizontal position of the center of mass (COM) during the trial
 - Stability regions for the feedback gain values (K_b & K_{vb})
 - Try running the model using gain values outside the stability boundaries. What happens to the COM response?
 - Return the gains to their original stable values. Now change the stance ratio from 1.0 to 2.0 and run the model. What happened? What changed to illicit this response?
- For better visualizations, go to <http://www.prism.gatech.edu/~jbingham3/fourbarjs/>
 - Play around with different values of stance ratio, delay, and feedback gains

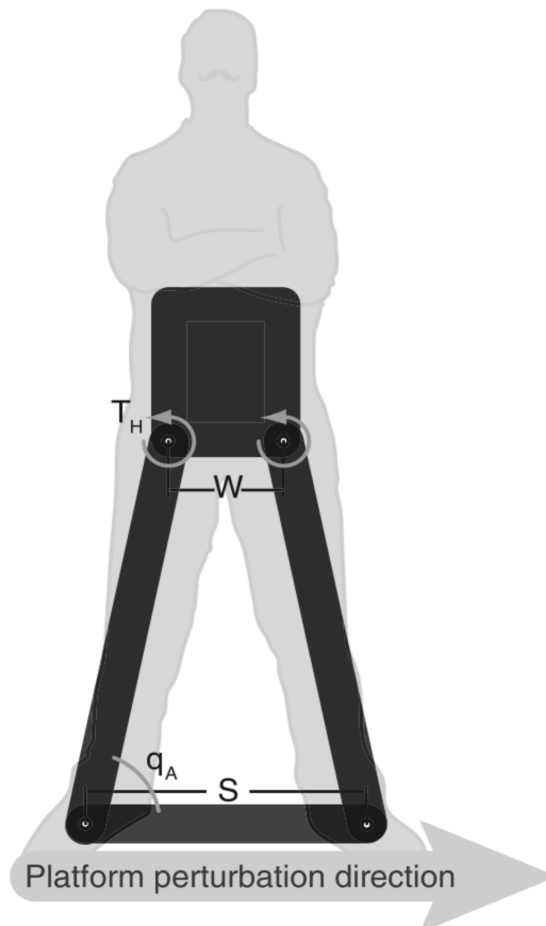


Figure 1: Four-bar linkage model of frontal plane dynamics. Adapted from Bingham and Ting 2011.