

Quick start reviewing optimizations

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This is a quick start if you like to use the optimizations only for reviewing simulation results. For other uses please refer to the manual.

1 Obtaining simulation results

Simulation results for the ICORR submission "Simulation of exoskeletal walking" by W. van Dijk and H. van der Kooij can be obtained from the <http://dbi.tudelft.nl/exoskeleton/simulation/>. A typical walking example is included in the simulator under data\walker.mat.

2 Initialize

Initialize the simulator by typing

```
initsim
```

This adds the correct folders to the MATLAB search path

3 Loading simulation results

Load the data with:

```
load(myfile.mat)
```

Now a multibody object should be added to the workspace (Figure 1)

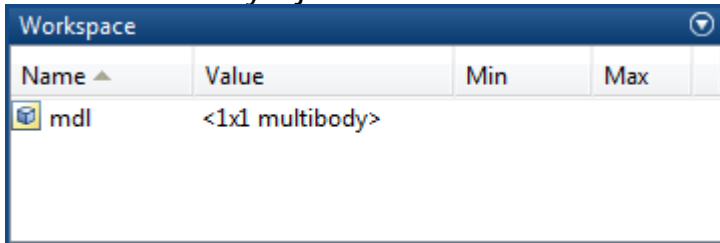


Figure 1: MATLAB workspace containing multibody object

4 Animate results

Animate results with:

```
animateresult(mdl)
```

Where mdl is a multibody object. A screen similar to Figure 2 should appear. Use the play button to start the animation. Animations can be saved as a sequence of .png files.

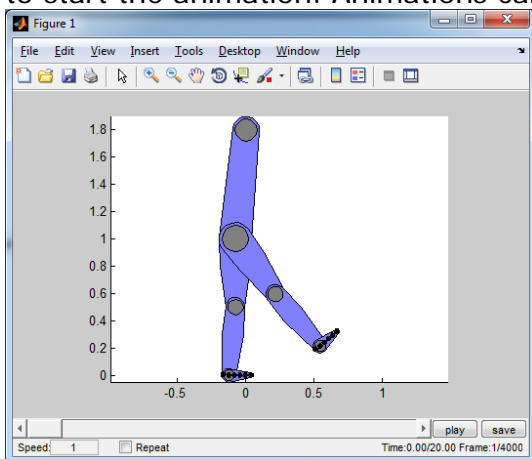


Figure 2: Animation GUI

5 Plot results

You can use:

```
averagestep(md1, 'plotttype')
```

To plot an average step. The results are averaged over the last 5 steps of the simulation. 'plotttype' specifies the type of the plot. The following plot types are available:

'activations'	Activations in the muscle
'muscle force'	Muscle forces
'joint torque'	Joint torques per controller
'joint torque area'	Joint torques as area plot
'joint angles'	Joint angles

6 Energy measures

Different energy measures can be obtained by

```
energy(md1)
```