

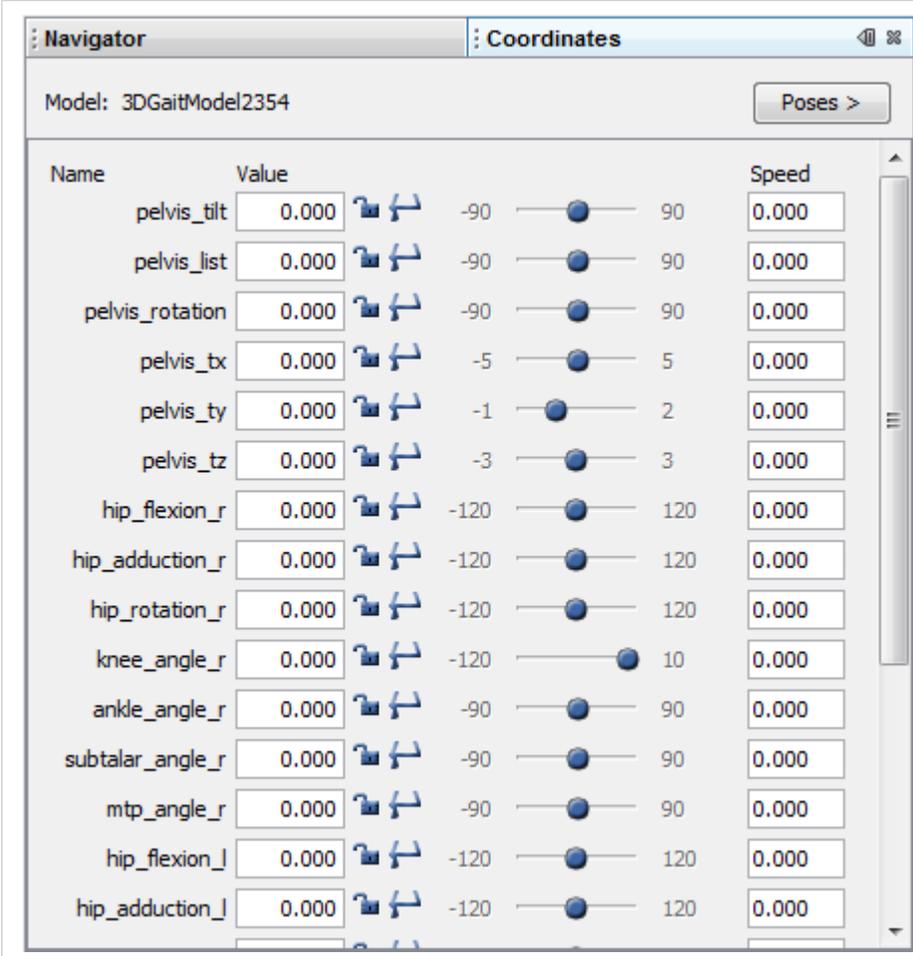
Coordinate Controls and Poses

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Opening and Closing the Coordinates Window

When you launch OpenSim, the Coordinates window is opened in the same panel as the Navigator window. As with other windows in OpenSim, you can move the Coordinates window to other locations in the application window by dragging the title bar and docking it in another panel of windows.



The screenshot shows the 'Coordinates' window in OpenSim. The window title is 'Coordinates' and it is docked in the 'Navigator' panel. The model is '3DGaitModel2354'. There is a 'Poses >' button. The main area contains a table of coordinates with columns for Name, Value, a range of motion (with a slider), and Speed. The 'Value' column has input fields, and the 'Speed' column has input fields. The 'Value' field for 'pelvis_tilt' is highlighted.

Name	Value	Range	Speed
pelvis_tilt	0.000	-90 to 90	0.000
pelvis_list	0.000	-90 to 90	0.000
pelvis_rotation	0.000	-90 to 90	0.000
pelvis_tx	0.000	-5 to 5	0.000
pelvis_ty	0.000	-1 to 2	0.000
pelvis_tz	0.000	-3 to 3	0.000
hip_flexion_r	0.000	-120 to 120	0.000
hip_adduction_r	0.000	-120 to 120	0.000
hip_rotation_r	0.000	-120 to 120	0.000
knee_angle_r	0.000	-120 to 10	0.000
ankle_angle_r	0.000	-90 to 90	0.000
subtalar_angle_r	0.000	-90 to 90	0.000
mtp_angle_r	0.000	-90 to 90	0.000
hip_flexion_l	0.000	-120 to 120	0.000
hip_adduction_l	0.000	-120 to 120	0.000

The Coordinates window allows you to set the **Value** of each coordinate in the current model, as well as to lock and clamp it. As of OpenSim 3.1, the Coordinates window also allows you to set the **Speed** of coordinates for a forward simulation.

- To close: click the 'x' in the top right of the tab.
- To open: select Window Coordinates from the OpenSim main menu bar.

Coordinate Control

For each coordinate in the model, there is one line in the Coordinates window, specifying the name of the coordinate and the following items that control its value and speed:

Value

value:

This number field displays the current value in degrees for rotational coordinates and meters for translational coordinates. If you type in a new value that is outside the range of motion of a coordinate that is clamped, the current value will not be changed. If the coordinate is locked, the number field will be grayed out, but will still display the current value.

clamp: clamped =  unclamped = 

This toggle lets you clamp and unclamp the coordinate. When a coordinate is clamped, it cannot be set to a value outside its range of motion, either by typing in a new value, moving the slider, playing back a motion, or running a dynamic simulation. The minimum and maximum values of the range of motion are shown on either side of the coordinate's slider.

lock: locked =  unlocked = 

This toggle lets you lock and unlock the coordinate. When a coordinate is locked, its value cannot be changed by typing in a new value, moving the slider, playing back a motion, or running a dynamic simulation.

slider: 

The slider bar allows you to move a coordinate continuously through some or all of its range of motion. Click on the dot and drag it to a new position to change the coordinate smoothly between the minimum and maximum values.

Speed

speed:

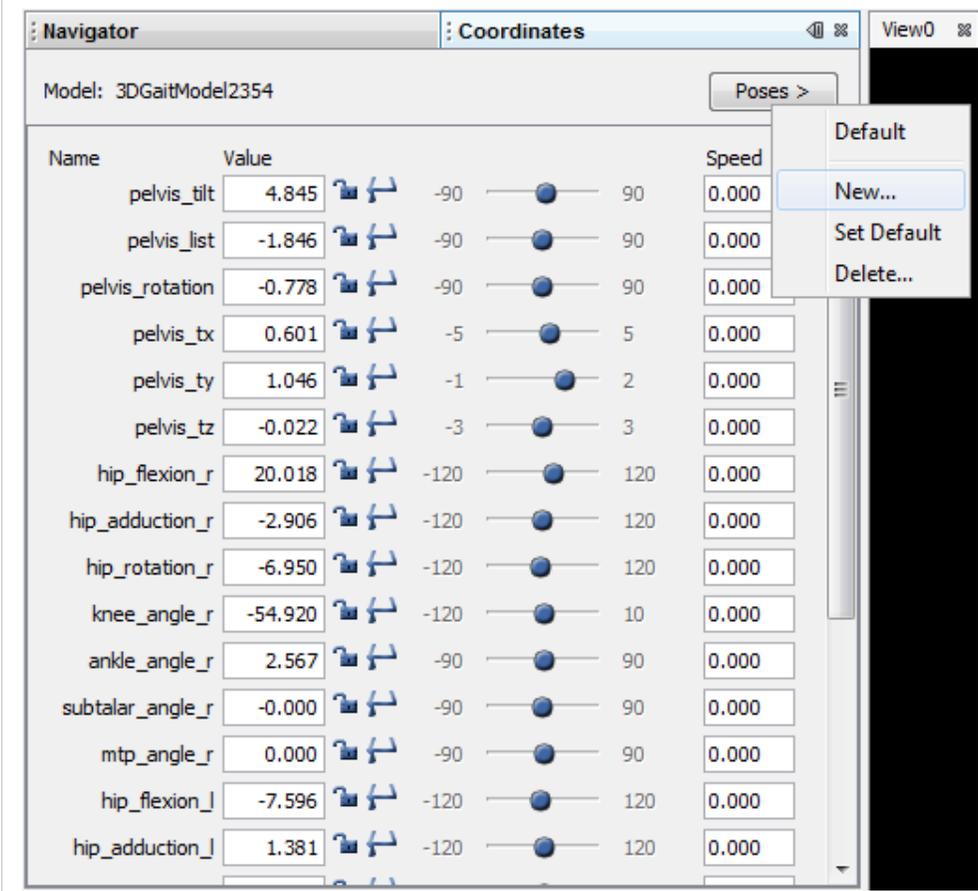
This number field displays the speed of the coordinate in degrees/sec for rotational coordinates and meters/sec for translational coordinates. You can use this field to set the initial speed of a coordinate for a forward simulation.

Poses

A pose is a set of values for all of the coordinates in a model (both values and speeds). Saving and applying poses is an efficient way of putting the model in different configurations, or poses, rather than entering coordinate values and speeds individually.

Create a New Pose

To create a new pose:



Name	Value	Clamp	Min	Max	Speed
pelvis_tilt	4.845		-90	90	0.000
pelvis_list	-1.846		-90	90	0.000
pelvis_rotation	-0.778		-90	90	0.000
pelvis_tx	0.601		-5	5	0.000
pelvis_ty	1.046		-1	2	0.000
pelvis_tz	-0.022		-3	3	0.000
hip_flexion_r	20.018		-120	120	0.000
hip_adduction_r	-2.906		-120	120	0.000
hip_rotation_r	-6.950		-120	120	0.000
knee_angle_r	-54.920		-120	10	0.000
ankle_angle_r	2.567		-90	90	0.000
subtalar_angle_r	-0.000		-90	90	0.000
mtp_angle_r	0.000		-90	90	0.000
hip_flexion_l	-7.596		-120	120	0.000
hip_adduction_l	1.381		-120	120	0.000

1. Set all the coordinate values to put the model in the desired configuration by entering values, moving the sliders, or applying a particular frame of motion. You can also set desired speeds.
2. Click **Poses >** and choose **New..** from the drop down menu
3. Enter a name in the dialog box that appears and click **OK**.

Note that a pose does not include a camera position or the locked/unlocked or clamped/unclamped states of the coordinates.

Setting the Default Pose

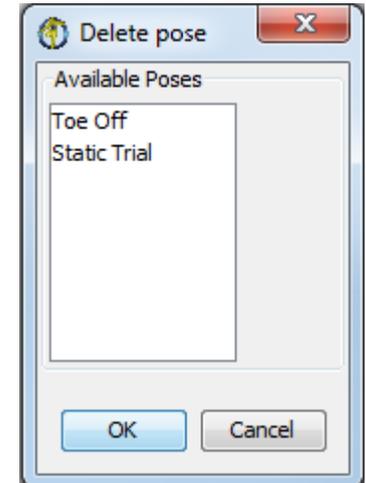
To create a new default pose for your model, set the coordinate values as described above. Then choose **Set Default** from the **Poses >** dropdown.

Applying a Pose

To apply a pose, click on the **Poses >** button and choose the desired pose from the list in the menu. "Default" is always the first pose in the list, followed by the user-defined poses 2). "Default" is the pose containing the default coordinate values stored in the model file. When you apply a pose to a model, each coordinate is set to its value in the pose only if the coordinate is currently unlocked, and, if clamped, only if the value is within the coordinate's range of motion. Applying a pose also sets a speed.

Deleting a Pose

To delete a pose:



1. Click on the **Poses >** button and choose **Delete...** from the drop down menu.
2. Select the pose you which to delete by clicking on its **name**.
3. When you click **OK**, the poses will be deleted from the drop down menu.

 use ctrl+left mouse or shift+left mouse to select multiple poses

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