How to use the Model View Control Animation tab

The Animation tab allows you to control all aspects of the models animation.

1) Click on the Model tab (lower left corner of the main window). If the Model View Control is not visible in the window then click the third button from the bottom on the left hand side vertical toolbar. If the Animation tab is not visible then click the horizontal scroll bar in the upper right corner of the Model View Control until it is displayed. (see Figure 2)
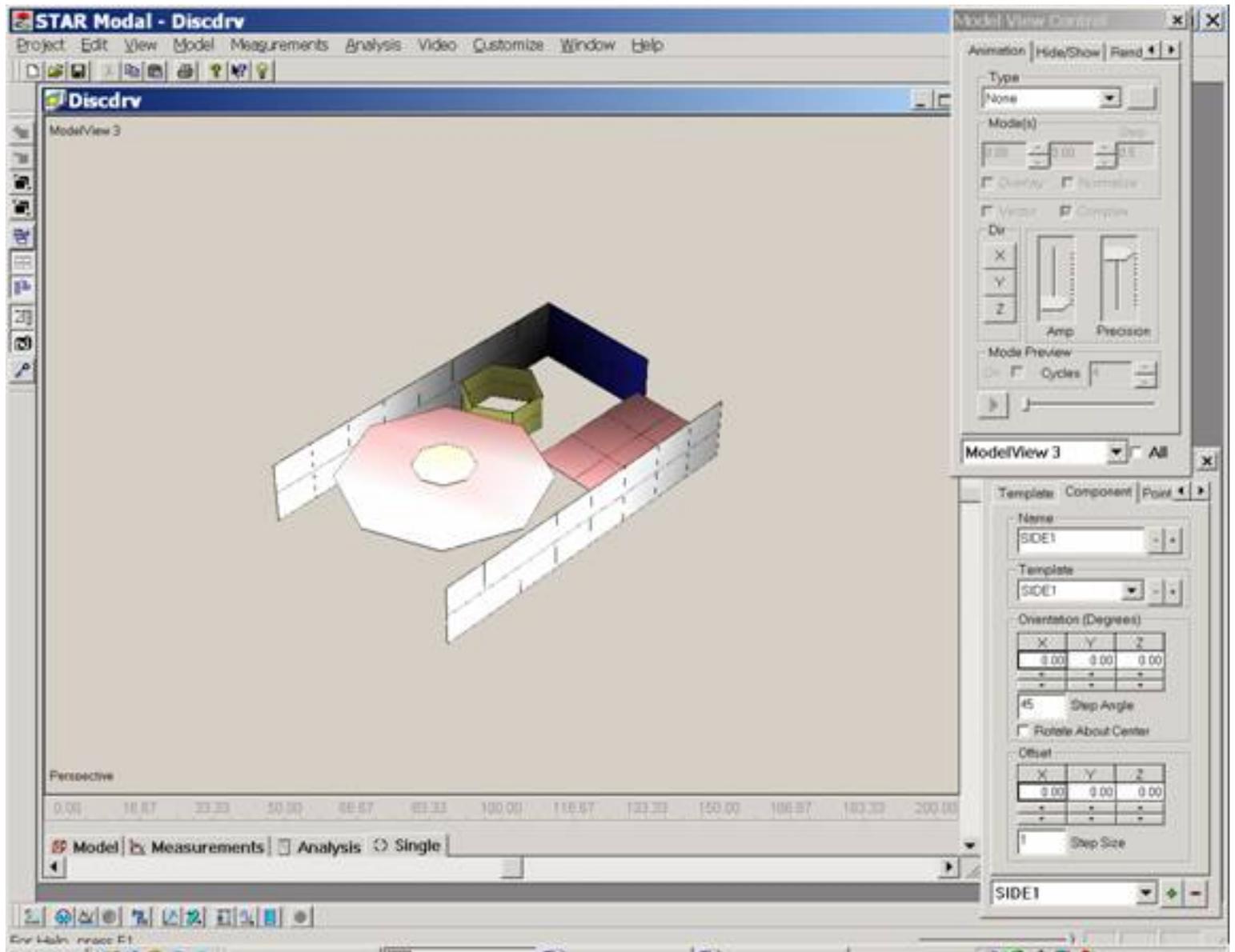
Figure 1
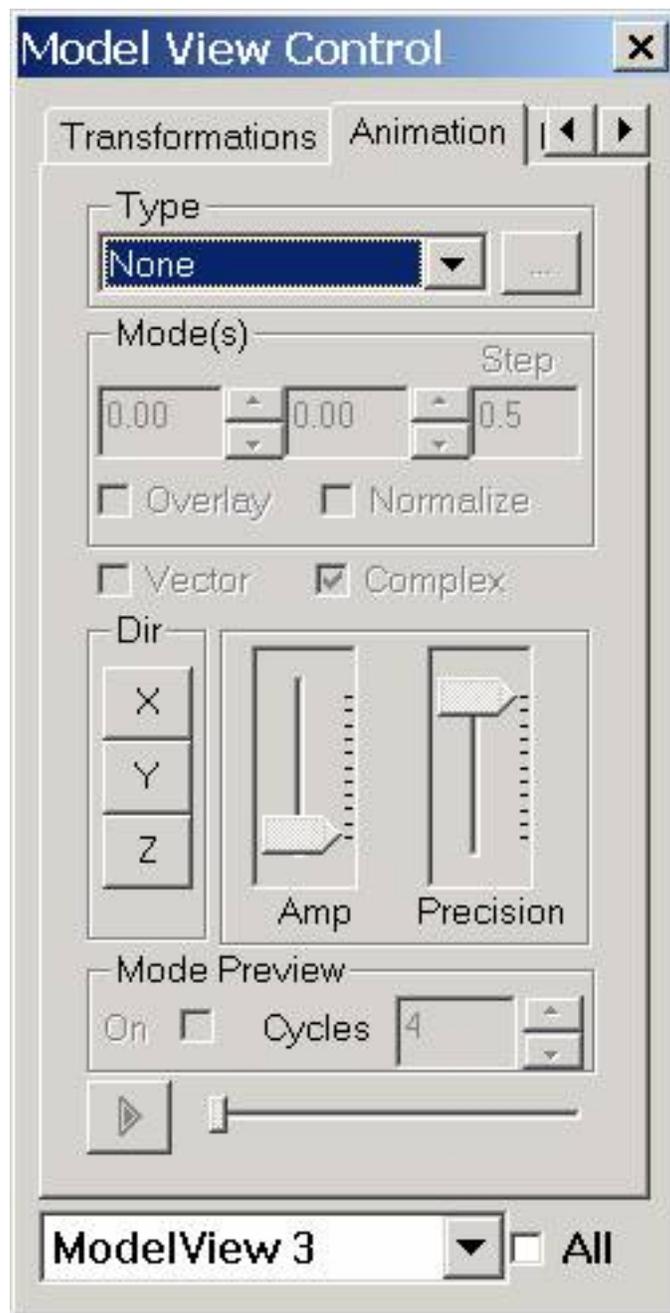
Figure 2

2) In the Type Group where None is highlighted, there are four
choices: Frequency, None, ODS, and Time.
        Click Frequency, to display Modal Analysis Mode Shapes.
    Click Time, to display Time Domain Analysis if desired.
            Click ODS, when Operating Deflection Shapes if desired.

Model View Control ✕

Transformations Animation ◀ ▶

Type
Frequency ▼ ...

Mode(s)
Step
1 ▲▼ Undef ▲▼ 0.5

☐ Overlay ☑ Normalize

☐ Vector ☑ Complex

Dir
X
Y
Z

Amp Precision

Mode Preview
On ☐ Cycles 4 ▲▼

▶

ModelView 4 ▼ ☑ All
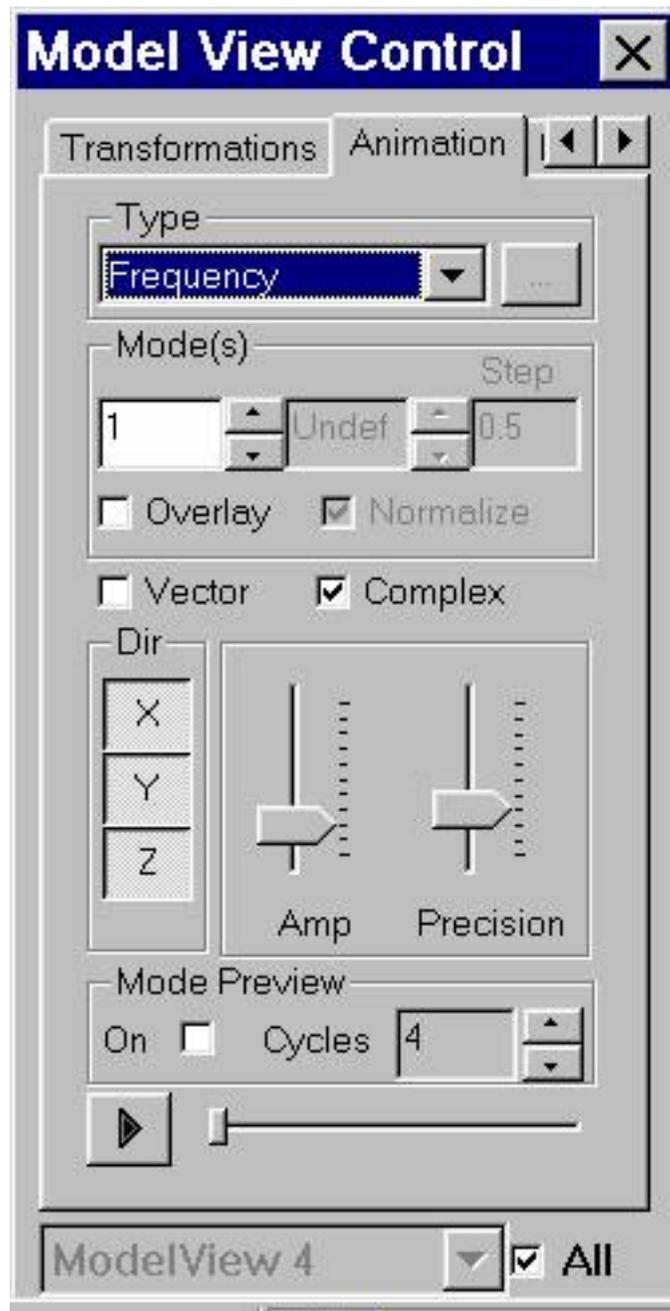
Figure 3

3) There are three selections within the Mode(s) group, Mode number, Overlayed Mode number, and Step.

4) Use the Horizontal Up/Down arrows to select the Mode you are

interested in displaying (or highlight the selection and edit the value).

5) Click the Overlay checkbox in order to overlay and compare the Undeformed shape, other mode shapes or the results for the Deformation table.

6) The Normalize checkbox, is enabled when the Model Overlay is checked. The Normalize function allows the animation values to be Normalized so that the models motion is relative motion between the modes.

7) The Vector checkbox, will change the mode shape display from Contour to a Vector display. This is where the motion is describe as straight lines radiating in and out of each individual point. (Motion is limited to those points and directions with curve fit or constraints results. Default is Contour mode shapes display.

8) The Complex checkbox (default setting) displays the animation with the exact phase relationship contained within the Frequency Results table. Complex animation can show "traveling wave" effect often associated with non-linear results and in addition it is useful in identifying measurement or curve fitting errors.

The Normal mode (complex unchecked) will cause the animation results from the Frequency Results Table to be "rounded" to either 0 or 180 degrees.

- Phase angles between –67.5 degrees and +112.5 degrees are set to 0.
- All other phase angles are set to 180 degrees.

9) The Directions group enables/disables Frequency Results animation direction information from being applied to the model. You

can disable animation of the X, Y or Z directions. (default is all directions enabled)

10) The Amplitude and Precision group: The Amplitude controls the motion of the model, it ranges between motionless and maximum, values range from 0 to 100.

Precision is the same idea as the old Speed control. Since, the animation is made up of a series of frames increasing the Precision increases the number of frames used to describe the modes motion. If the Precision is decreased then frames are skipped in order to speed up the animations display.

11) Mode Preview: When checked it will display a combination of all of the individual mode shapes. Each mode shape will loop for the number of cycles specified the Cycles edit box.

12) Finally, there is the Play button, that looks like a right facing arrow. Click it and the animation will begin in the Active window. Check the "All" checkbox and this will activate the animation in all the Views.