



# **Disur**

for Daz Studio

v1.0

By

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# Disur for DAZ Studio plugin

## Registering:

The plugin requires to be registered in order to work. The process is the following:

- 1 On [www.Daz3d.com](http://www.Daz3d.com) website, go to *My Account*.
- 2 Click *Serial Numbers* and copy the serial number for the *Disur* Plugin.
- 3 Next go into Daz Studio.
- 4 Go to *Help – About installed plugins* menu.
- 5 Scroll down to the *Disur* Plugin, paste the serial number, and click OK, then restart Daz Studio to complete the process.
- 6 If *Disur* was correctly registered, you will see it listed in the Windows – Panes (Tabs).

## Introduction

Disur is a plugin specialized in distorting surfaces. These distortions are topology-preserving, that is, the vertices are always connected to the same vertices, with no new connections nor disconnections.

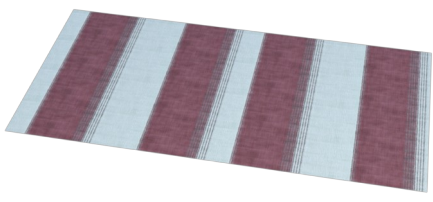
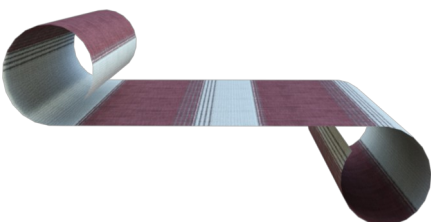
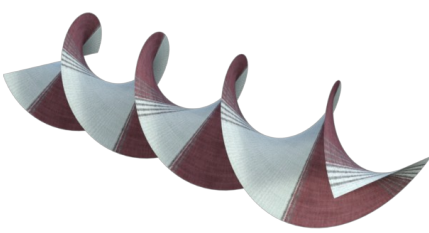
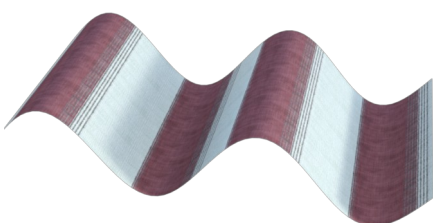
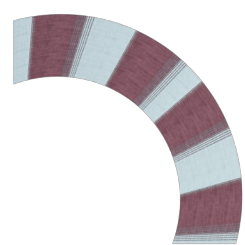
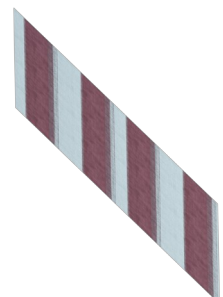



The basic distortions are:

1. Roll
2. Twist
3. Wave
4. Bend
5. Shear
6. Taper
7. Project on Sphere
8. Project on Torus

The distortions can be applied one after the other, either statically or kinematically. The static methods simply take an already distorted surface and apply to it an additional distortion.

The kinematic method can animate the distortions that can be applied in stack mode. It uses Mesher Nodes that can be connected one-to-one.

# Types of distortion

Original surface	Roll	Twist
		
Wave	Bend	Shear
		
Taper	Project on sphere	Project on Torus
		

## Disur Pane

The image shows the 'Disur Pane' interface with the following settings:

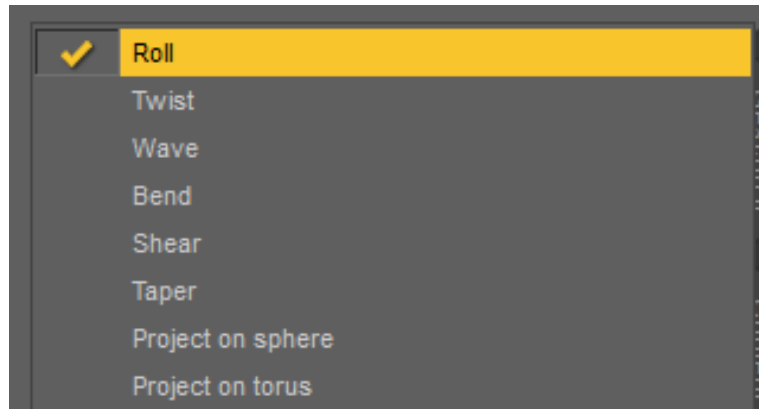
- Distortion type:** Roll
- Distortion along axis:** X
- Preferred primary perpendicular axis:** AUTO
- New node
- Left Counter-clockwise
- Right counter-clockwise
- Left side limit:** 0.00
- Right side limit:** 1.00
- Separate parameters left-right
- Left-side parameters:**
  - Initial Radius: 1.00
  - Rolling tightness: 0.050
  - Perpendicular axis deviation: 0.00
- Right-side parameters:**
  - Initial Radius right: 1.00
  - Rolling tightness right: 0.050
  - Perpendicular axis deviation right: 0.00
- Buttons:**
  - Create Disur Mesher node...
  - Bake the Mesher...
  - Pane to Mesher node...
  - Mesher node to Pane...

On the right side of the interface, there is a vertical sidebar with the following labels: Disur, Tempestad, PARISIS, Content Library, Gescon II, and Thickener.

### ***Description of parameters:***

*Distortion type:* Here, the user chooses the desired type of distortion of the selected surface. The types are:

- Roll
- Twist
- Wave
- Bend
- Shear
- Taper
- Project on Sphere
- Project on Torus



When one of them is selected, the parameters required for the distortion will change accordingly.

*Distort:* By clicking on this button, the distortion operation (static) will be executed.

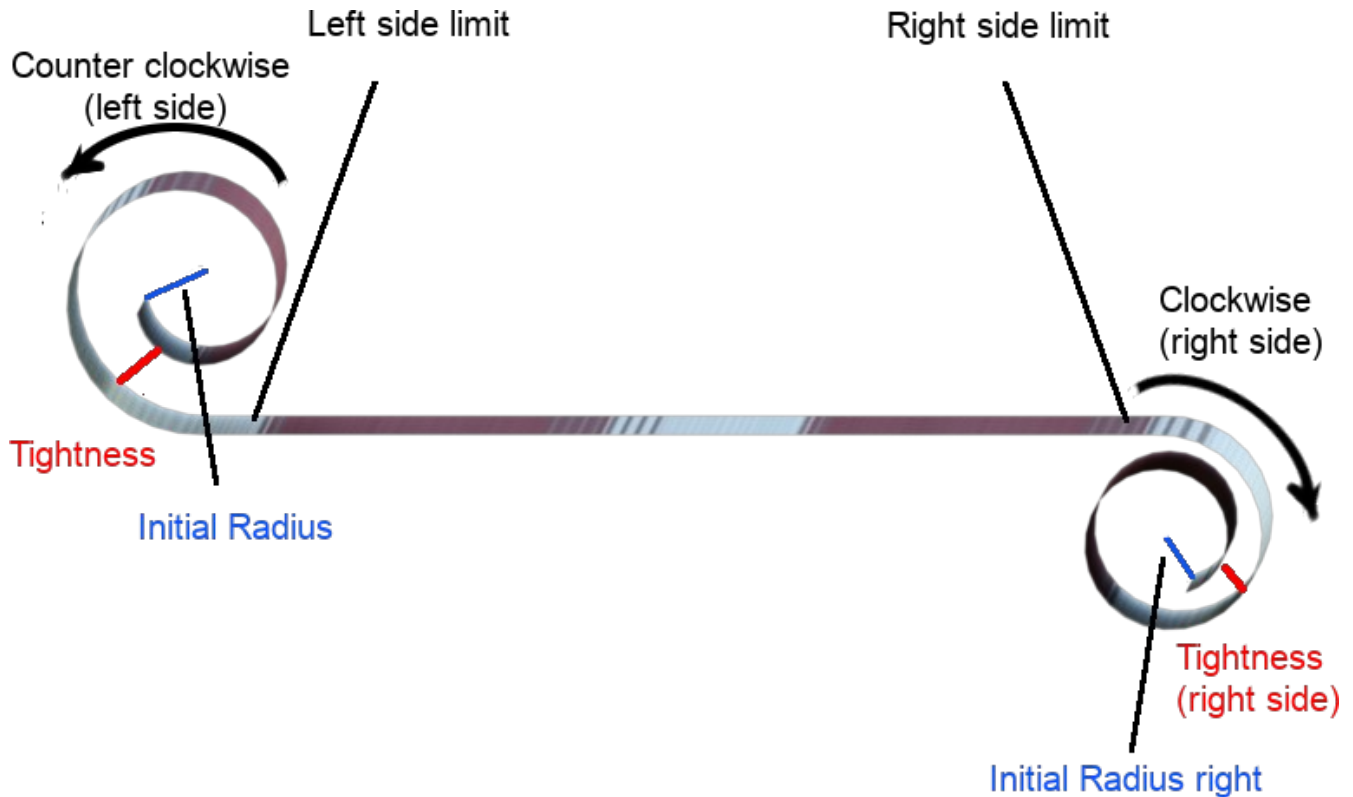
*Create Disur Mesher node:* By clicking this button, the user can create a *Disur Mesher node*.

*Bake the Mesher:* The *Disur Mesher* can be copied to a *new* static node (not *Mesher*). The original *mesher* will remain intact.

*Pane to Mesher node:* By clicking this button, the values of the parameters in the *Disur Pane* will be copied to a *Mesher node*. The plugin will ask the user to select one in the scene.

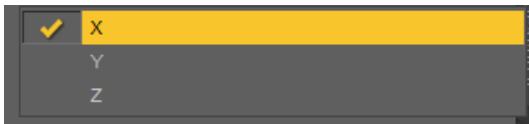
*Mesher node to Pane:* By clicking this button, the values of the properties from a *Mesher node* will be copied to the *Disur Pane*. The plugin will ask the user to select one in the scene.

**Roll's parameters:**



*New node:* If this is checked, a new node with the deformations is generated. Otherwise, the selected node itself is deformed.

*Distortion along axis:* The rolling will be along the selected axis (local axis on the surface selected).



*Preferred primary perpendicular axis:* This is the perpendicular axis to use in *Perpendicular axis deviation*. If *AUTO* is selected, Disur will search and choose the longest direction (X, Y, or Z) that is not the selected axis in *Distortion along axis*. Otherwise, the selected axis in this option is used.



*Counter-clockwise:* If this is checked, the initial part (left) of the rolling will be counter-clockwise; otherwise, clockwise.

*Right Counter-clockwise:* If this is checked, the final part (right) of the rolling will be counter-clockwise; otherwise, clockwise.

*Left side limit:* This defines the upper limit of the left side of the surface to roll. It takes values from 0 to 1, where 0 represents the leftmost point on the surface and 1 the other extreme. That is, a value of 0

indicates that the rolling will not roll from the left side, whereas a value of 1 indicates that the rolling will cover all the surface from the left side.

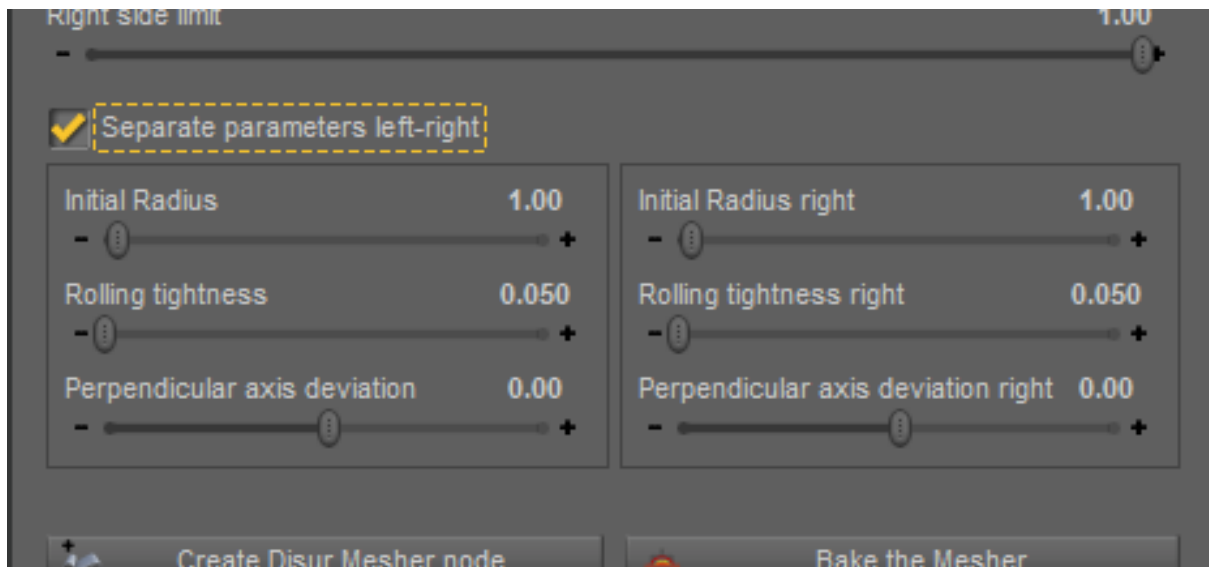
*Right side limit:* This defines the lower limit of the right side of the surface to roll. It takes values from 0 to 1, where 0 represents the rightmost point on the surface, and 1 the other extreme. That is, a value of 0 indicates that the surface will roll all the way from the right side to the left side, and a 1 indicates that the roll will not roll at all from the right side.

*Initial Radius:* This parameter determines the minimum radius, that is, the radius at the start of the rolling of the surface.

*Rolling tightness:* This defines the rate of increases of the *Initial Radius*. The surface rolling will be tight if this value is low.

*Perpendicular axis deviation:* This determines the grade of deviation of the surface in the perpendicular axis direction (The perpendicular axis will be the one in which the surface extends further, distinct from the *Distortion along axis*).

*Separate parameters left-right:* If this is checked, the *Initial Radius*, *Tightness*, and *Perpendicular axis deviation* can receive separate values (the corresponding sliders for the *right side* are enabled), otherwise, the values will be the same for both sides.



*Initial Radius right:* This parameter is equivalent to the *Initial Radius* one, but only for the right side.

*Rolling tightness right:* This parameter is equivalent to the *Rolling tightness* one, but only for the right side.

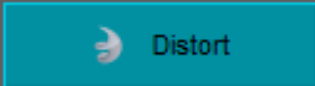
*Perpendicular axis deviation right:* This parameter is equivalent to the *Perpendicular axis deviation* one, but only for the right side.

Perpendicular axis deviation (left side)



Perpendicular axis deviation (right side)

*Twist's parameters:*

*Disur: Distorted surfaces* 

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Distortion type Twist ▾


Distortion along axis X ▾

Preferred primary perpendicular axis AUTO ▾

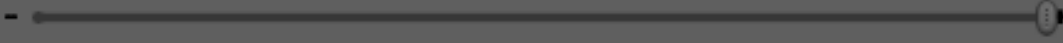
New node

Counter-clockwise


Initial value along axis 0.00

-  +


Final value along axis 1.00

-  +

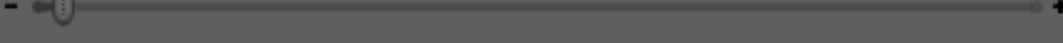
Perpendicular axis deviation 0.00

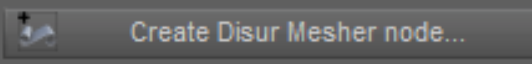
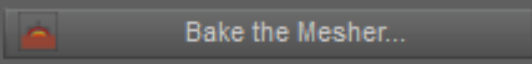
-  +

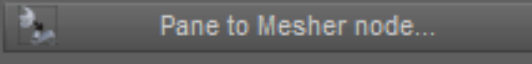
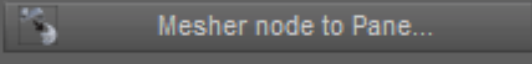
Secondary perpendicular axis deviation 0.00

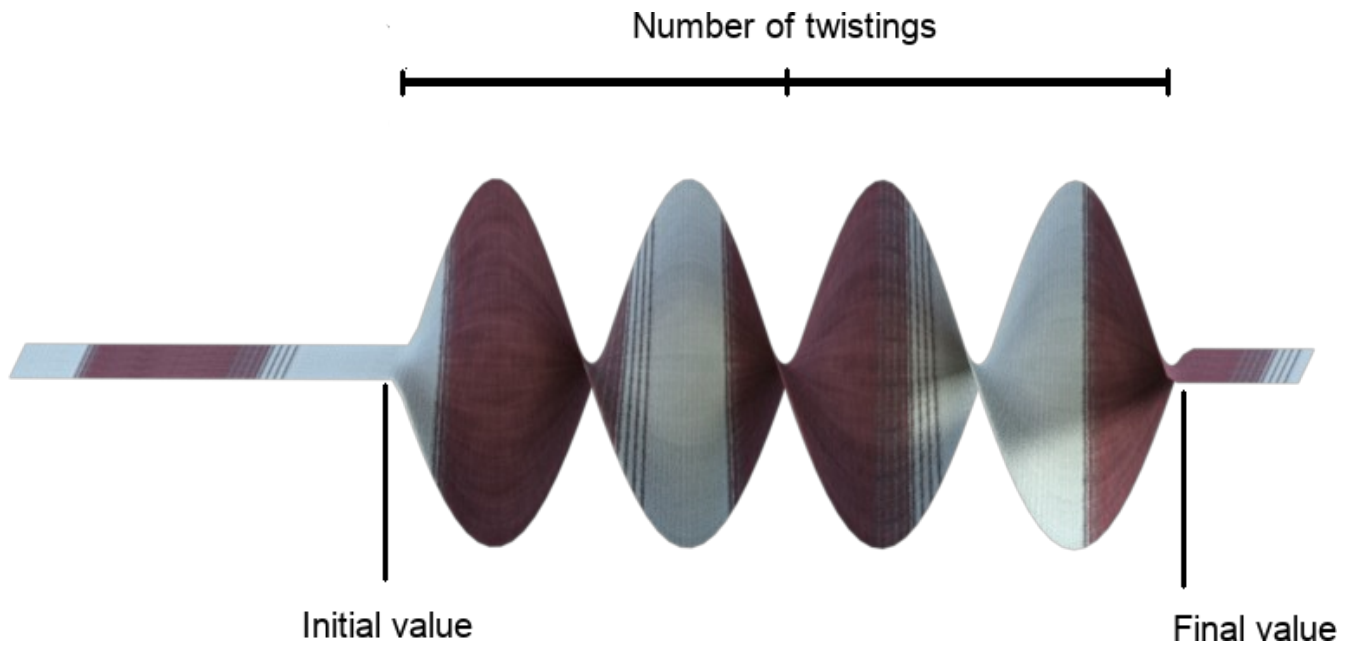
-  +

Number of twistings 1.00

-  +

 Create Disur Mesher node...  Bake the Mesher...

 Pane to Mesher node...  Mesher node to Pane...



*New node*: This is equivalent to the *New node* parameter of rolling.

*Distortion along axis*: The surface will be twisted along the selected axis.

*Preferred primary perpendicular axis*: This is the perpendicular axis to use in *Perpendicular axis deviation*. If *AUTO* is selected, Disur will search and choose the longest direction (X, Y, or Z) that is not the selected axis in *Distortion along axis*. Otherwise, the selected axis here is used.

*Counter-clockwise*: If this is checked, the twisting will turn counter-clockwise; otherwise, clockwise.

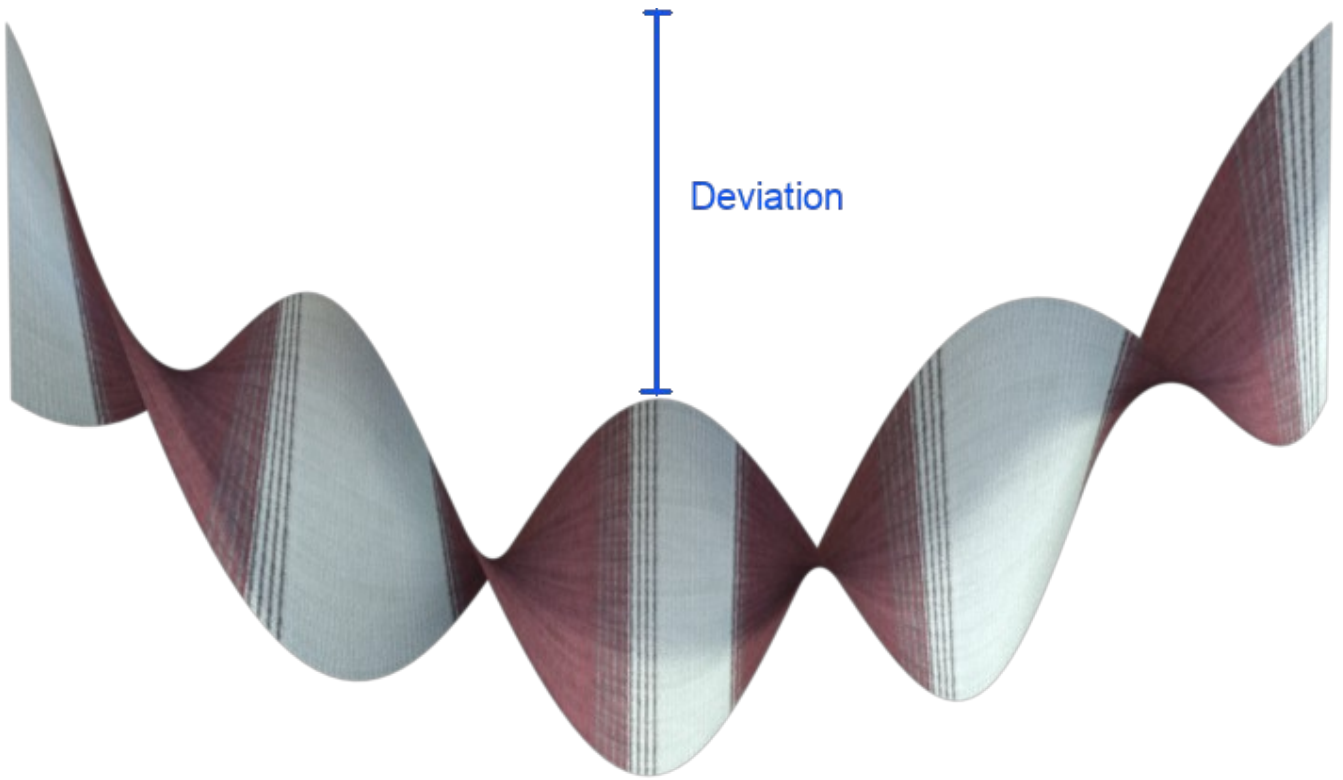
*Initial value along axis*: This parameter determines the initial value along the selected axis (X or Z) where the twisting starts to develop. The value represents a fraction of the total length of the surface along the selected axis.

*Final value along axis*: This parameter determines the final value along the selected axis (X or Z) where the twisting finishes to developing. The value represents a fraction of the total length of the surface along the selected axis.

*Perpendicular axis deviation*: This determines the grade of deviation of the surface in the perpendicular axis direction (The perpendicular axis will be the one where the surface extends further)

*Secondary perpendicular axis deviation*: This is the grade of deviation along the second perpendicular axis, distinct from the previous one.

*Number of twistings*: This determines the number of twistings (360-degree turns). It can be a fractional value.



**Wave's parameters:**

*Disur: Distorted surfaces* Distort

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Distortion type Wave ▼

Distortion along axis X ▼

Preferred primary perpendicular axis AUTO ▼

New node

Initial value along axis 0.00  
-  +

Final value along axis 1.00  
-  +

Initial value along perpendicular axis 0.00  
-  +

Final value along perpendicular axis 1.00  
-  +

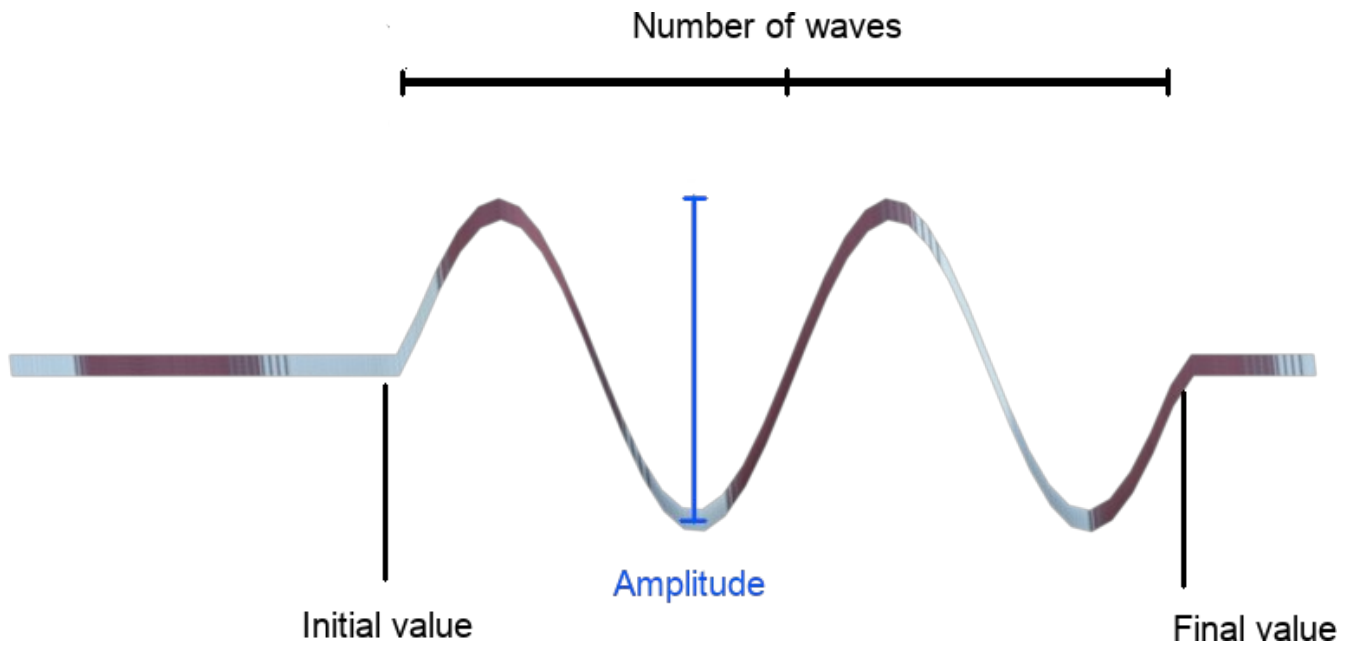
Amplitude 0.10  
-  +

Number of waves 1.00  
-  +

Phase 0.00  
-  +

Create Disur Mesher node...  Bake the Mesher...

Pane to Mesher node...  Mesher node to Pane...



*New node*: This is equivalent to the *New node* parameter of rolling.

*Distortion along axis*: The surface will be waved in the direction of the selected axis.

*Preferred primary perpendicular axis*: This is the perpendicular axis to use in *Initial value along perpendicular axis* and *Final value along perpendicular axis*. If *AUTO* is selected, Disur will search and choose the longest direction (X, Y, or Z) that is not the selected axis in *Distortion along axis*. Otherwise, the selected axis here is used.

*Initial value along axis*: This parameter determines the initial value along the selected axis where the waves start. The value represents a fraction of the total length of the surface along the axis selected.

*Final value along axis*: This parameter determines the final value along the selected axis where the waves finish. The value represents a fraction of the total length of the surface along the selected axis.

*Initial value along perpendicular axis*: This parameter determines the initial value along the perpendicular axis at which the surface extends further. This parameter and the following limit the deformation in the perpendicular direction.

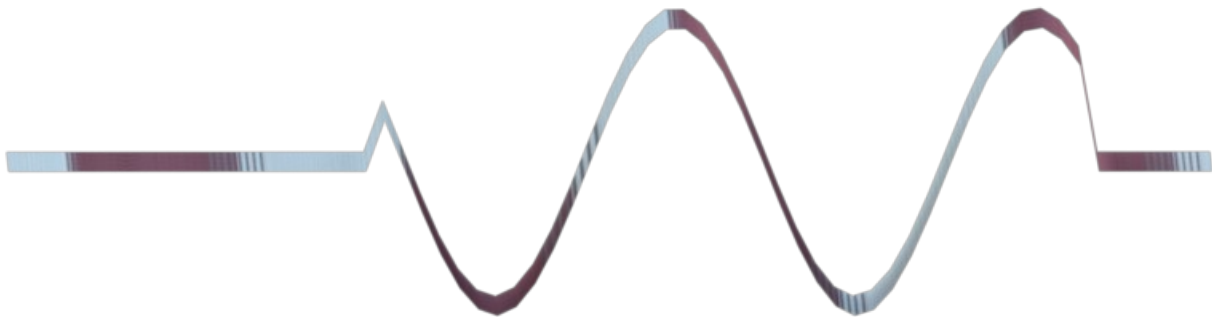
*Final value along perpendicular axis*: This parameter determines the final value along the perpendicular axis at which the surface extends further.

*Amplitude*: This parameter defines the height or amplitude of the wave (This is in the direction of the *secondary perpendicular axis*).

*Number of waves*: This is the number of waves or oscillations. It can be a fractional number.

*Phase*: This parameter controls the phase of the oscillations. The *phase* indicates the initial height of the wave.

Changed phase



***Bend's parameters:***

*Disur: Distorted surfaces* ➤ Distort

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Distortion type Bend ▼

Distortion along axes YZ ▼

New node

Initial value along axis 0.00  
-  +

Final value along axis 1.00  
-  +

Radius 1.00  
-  +

First Axis Angle (deg) 90.00  
-  +

Second Axis Angle (deg) 90.00  
-  +

+ Create Disur Mesher node... 🔥 Bake the Mesher...

🔗 Pane to Mesher node... 🔗 Mesher node to Pane...

*Distortion along axes:* The surface will be rotated around the selected axes.

*New node:* This is equivalent to the *New node* parameter of rolling.

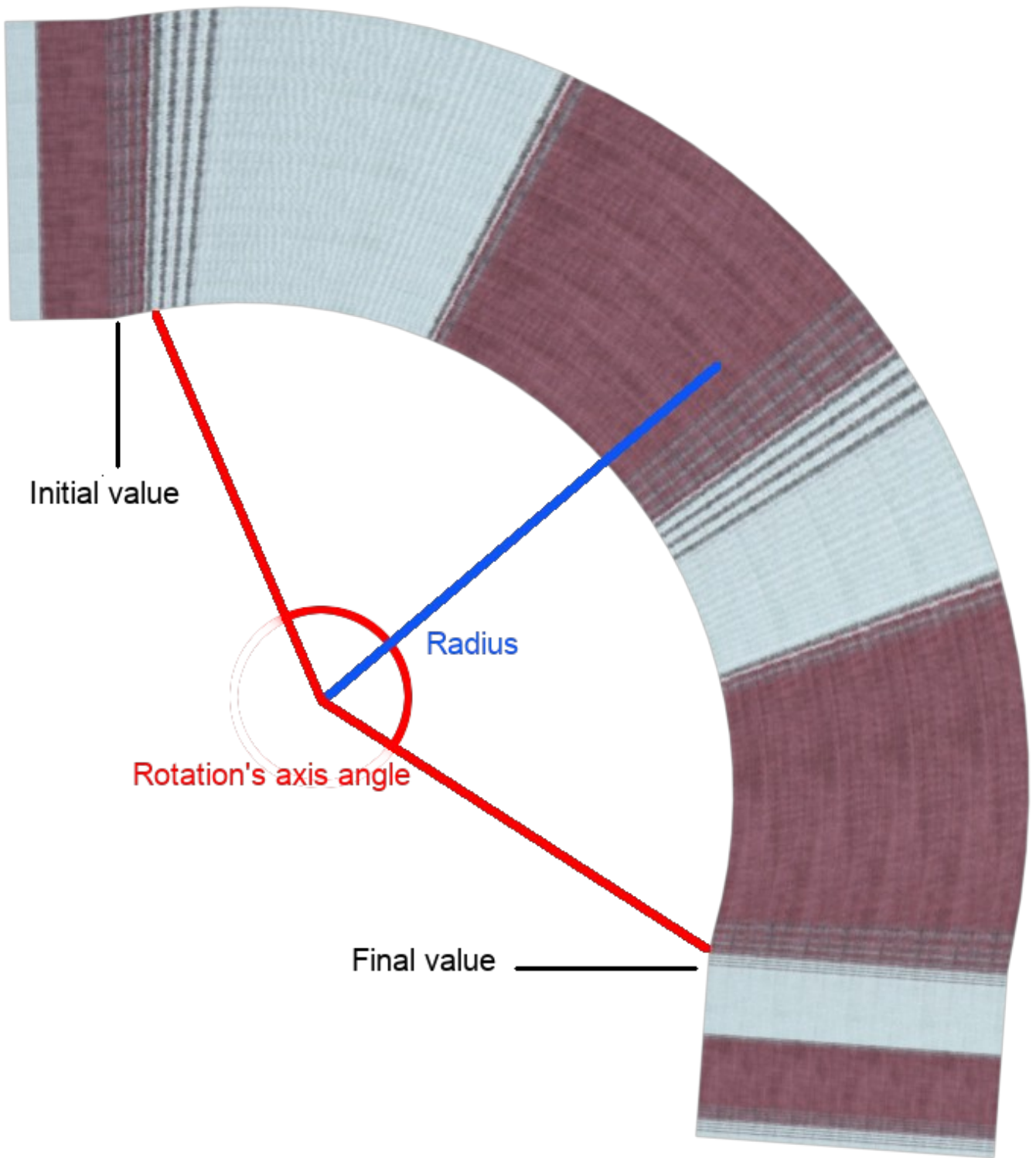
*Initial value along axis:* This parameter determines the initial value along the remaining axis, distinct from the axes in *Distortion along axes* in which the bending starts. The value represents a fraction of the total length of the surface along the selected axis.

*Final value along axis:* This parameter determines the final value along the remaining axis at which the bending finishes. The value represents a fraction of the total length of the surface along the selected axis.

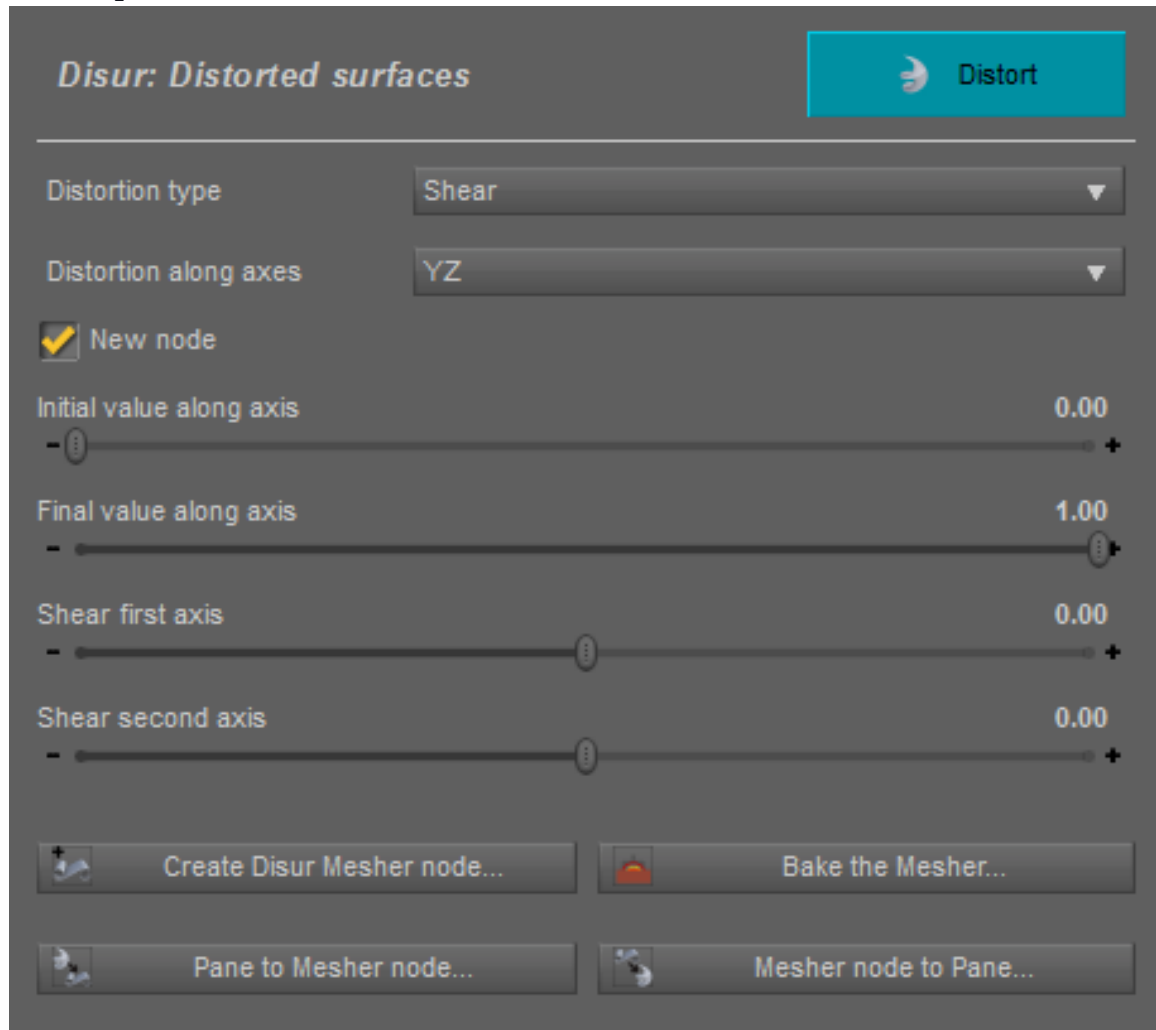
*Radius:* This parameter determines the radius of rotation around the axis. Represents the fraction of the longitude defined by the Initial value along axis and the Final value along axis.

*First axis angle (deg):* The maximum angle of rotation of the surface around the first axis.

*Second axis angle (deg):* The maximum angle of rotation of the surface around the second axis.



## Shear's parameters:



*Distortion along axes:* The surface will be sheared along the selected axes.

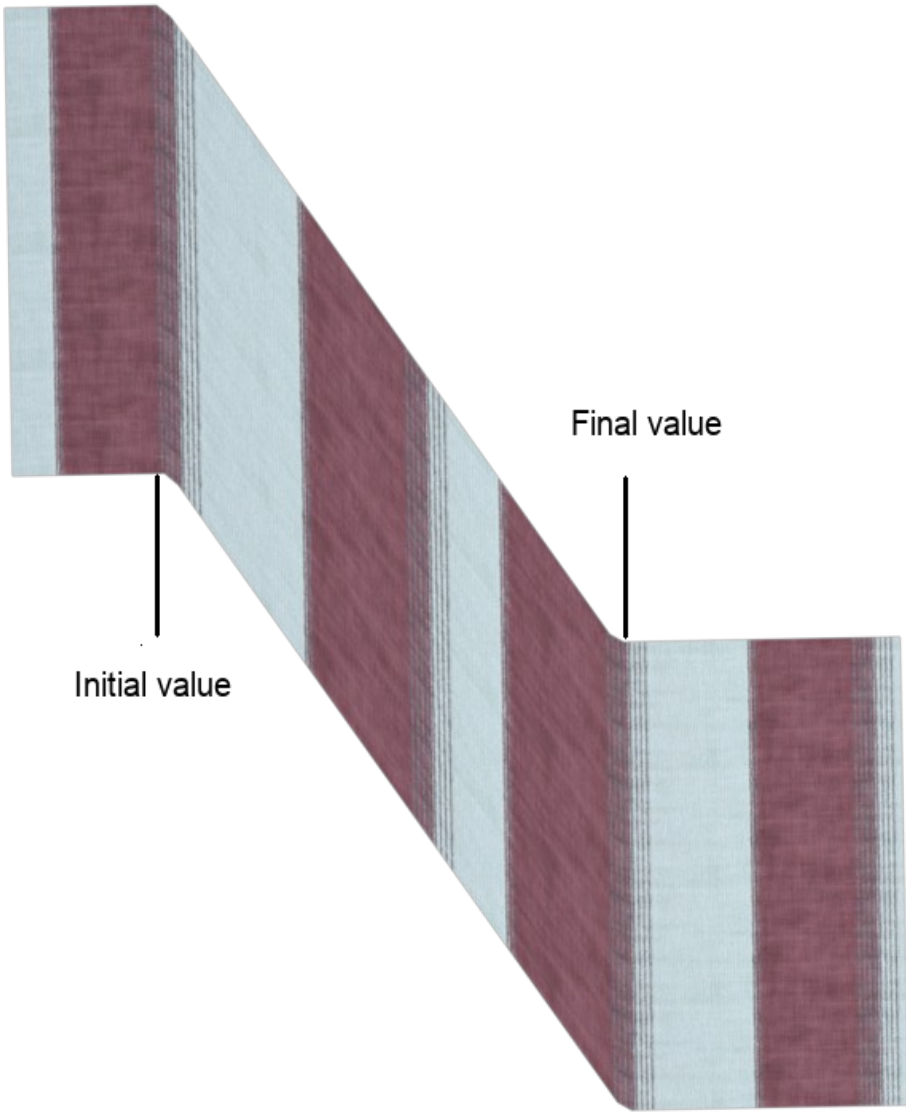
*New node:* This is equivalent to the *New node* parameter of rolling.

*Initial value along axis:* This parameter determines the initial value along the remaining axis, distinct from the axes in *Distortion along axes*, in which the shearing starts. The value represents a fraction of the total length of the surface along the selected axis.

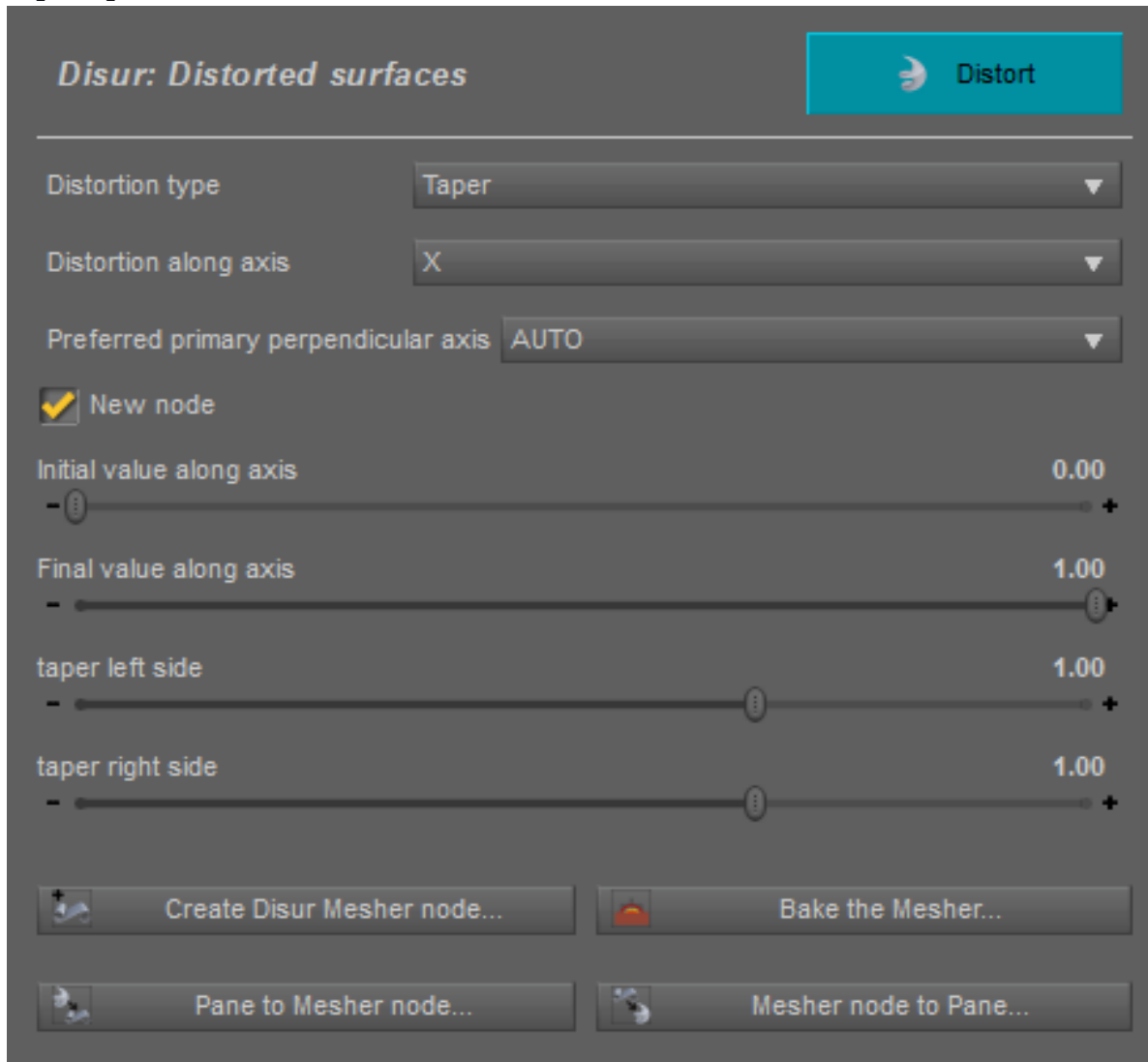
*Final value along axis:* This parameter determines the final value along the remaining axis in which the bending finishes. The value represents a fraction of the total length of the surface along the selected axis.

*Shear first axis:* The quantity of shearing of the surface along the first axis.

*Shear second axis:* The quantity of shearing of the surface along the second axis.



## Taper's parameters:



*Distortion along axis:* The surface will be tapered along the selected axes.

*Preferred primary perpendicular axis:* This is the perpendicular axis to which the surface is tapered. If *AUTO* is selected, Disur will search and choose the longest direction (X, Y, or Z) that is not the selected axis in *Distortion along axis*. Otherwise, the selected axis here is used.

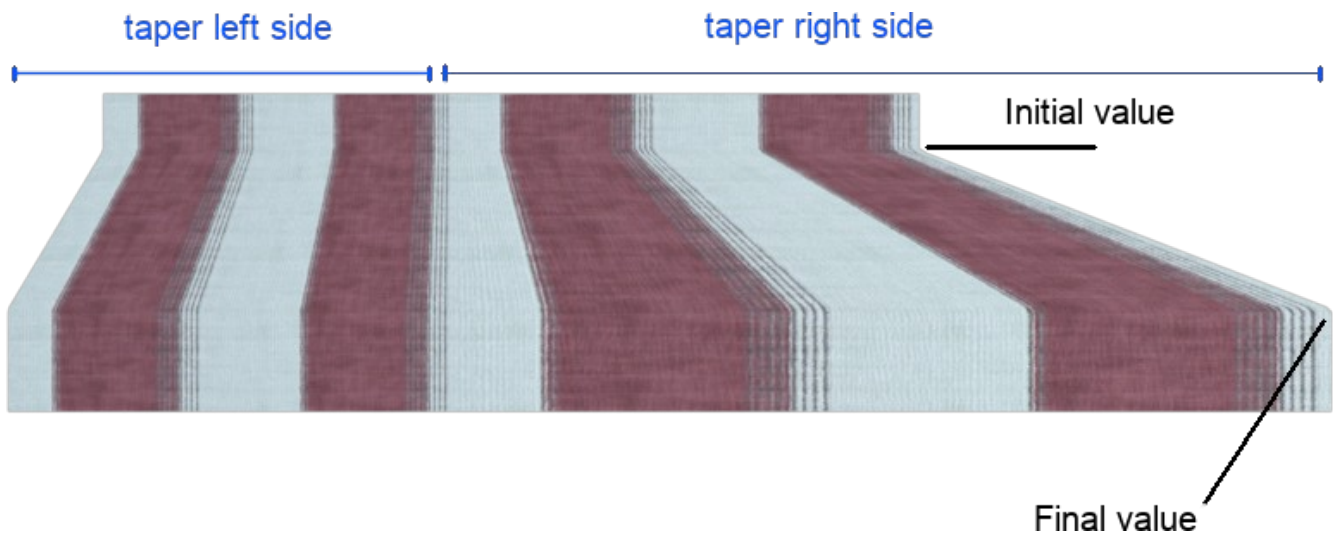
*New node:* This is equivalent to the *New node* parameter of rolling.

*Initial value along axis:* This parameter determines the initial value along the remaining axis, distinct from the axes in *Distortion along axis*, in which the tapering starts. The value represents a fraction of the total length of the surface along the selected axis.

*Final value along axis:* This parameter determines the final value along the remaining axis in which the tapering finishes. The value represents a fraction of the total length of the surface along the selected axis.

*Taper left side:* The quantity of tapering of the left side of the surface along the selected axis.

*Taper right side:* The quantity of tapering of the right side of the surface along the selected axis.



**Project on sphere's parameters:**

*Disur: Distorted surfaces* Distort

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Distortion type Project on sphere

New node

Minimum value of Theta (deg) -180.00

Maximum value of Theta (deg) 180.00

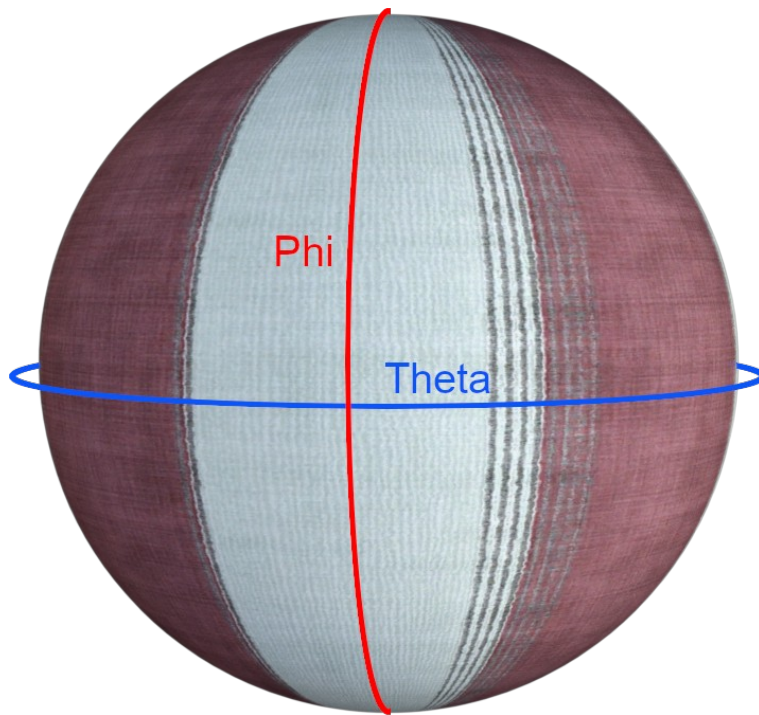
Minimum value of Phi (deg) -90.00

Maximum value of Phi (deg) 90.00

Radius 1.00

Create Disur Mesher node... Bake the Mesher...

Pane to Mesher node... Mesher node to Pane...



*New node*: This is equivalent to the *New node* parameter of rolling.

*Minimum value of Theta (deg)*: This is the minimum value of the  $\theta$  angle (longitude). It can take values from  $-180^\circ$  to  $180^\circ$ .

*Maximum value of Theta (deg)*: This is the maximum value of the  $\theta$  angle (longitude). It can take values from  $-180^\circ$  to  $180^\circ$ .

*Minimum value of Phi (deg)*: This is the minimum value of the  $\varphi$  angle (latitude). It can take values from  $-90^\circ$  to  $90^\circ$ .

*Maximum value of Phi (deg)*: This is the maximum value of the  $\varphi$  angle (latitude). It can take values from  $-90^\circ$  to  $90^\circ$ .

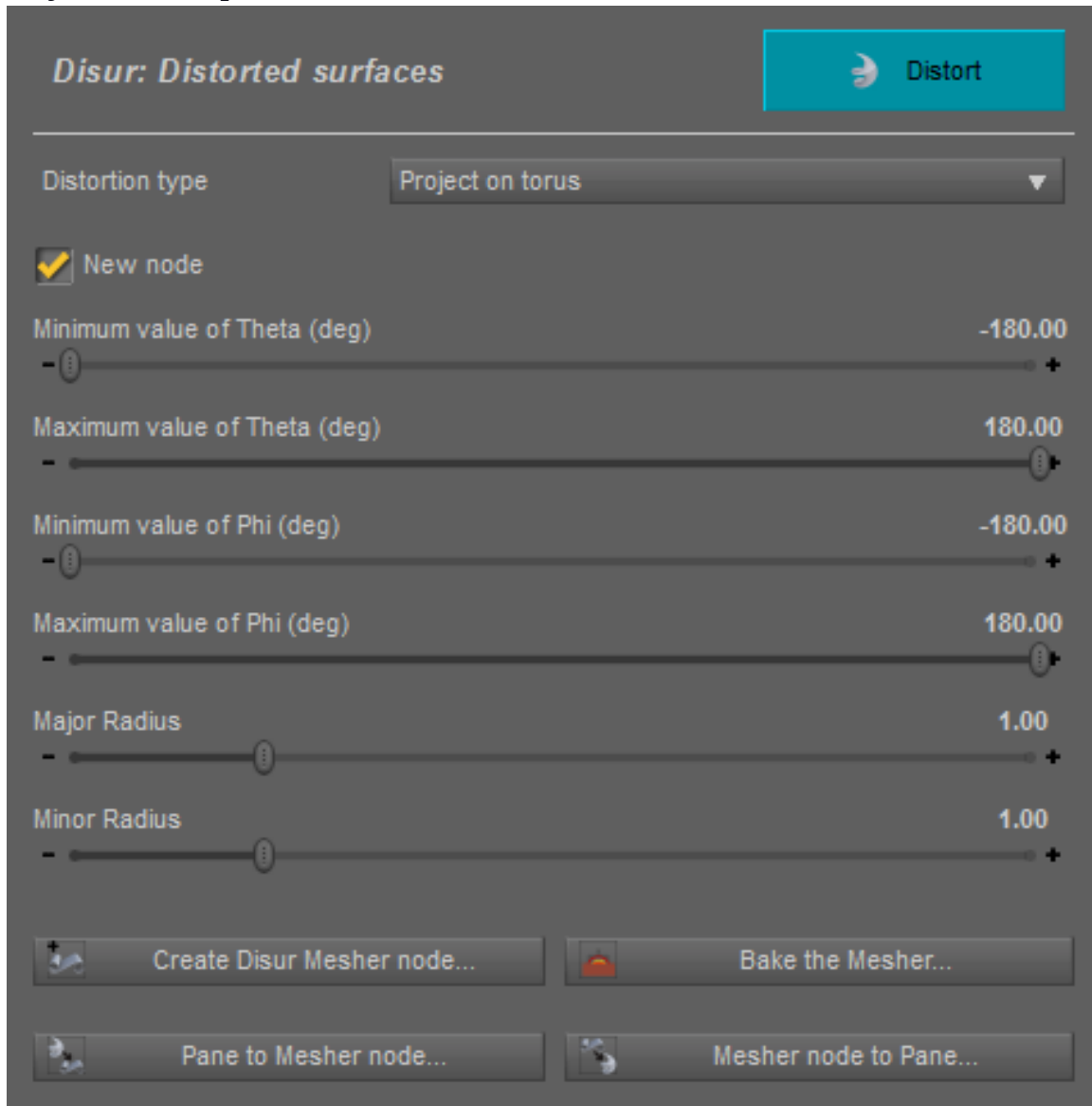
*Radius*: This parameter determines the radius of the resulting sphere. Its value is a multiple of the radius determined by the length of the major axis (the one that represents the longitude).

The plugin automatically determines the orientation of the longitude and latitude on the surface (the largest length is the longitude).

Projection with reduced range of angles Theta y Phi



### Project on torus' parameters:



*New node*: This is equivalent to the *New node* parameter of rolling.

*Minimum value of Theta (deg)*: This is the minimum value of the  $\theta$  angle (along the major circumference of the torus). It can take values from  $-180^\circ$  to  $180^\circ$ .

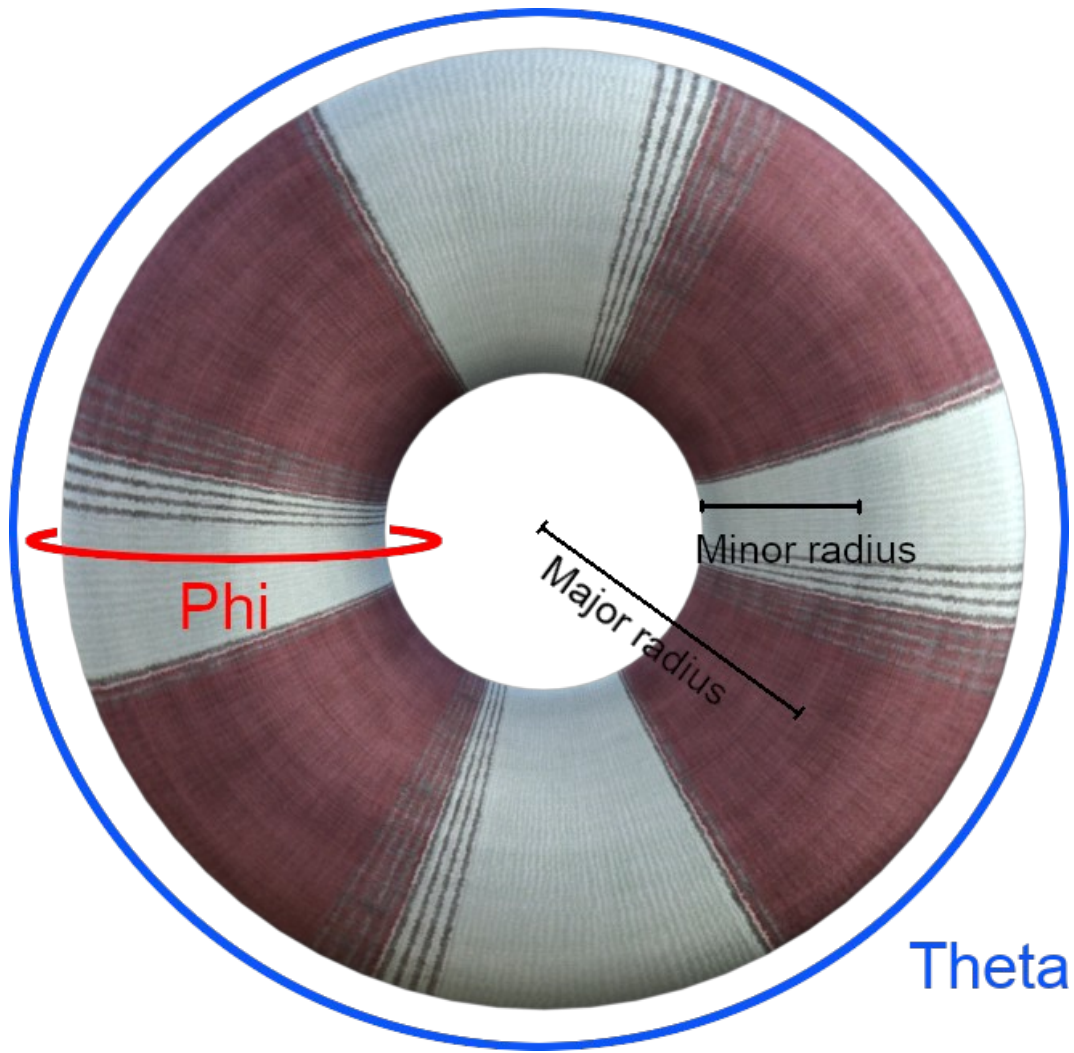
*Maximum value of Theta (deg)*: This is the maximum value of the  $\theta$  angle (along the major circumference of the torus). It can take values from  $-180^\circ$  to  $180^\circ$ .

*Minimum value of Phi (deg)*: This is the minimum value of the  $\phi$  angle (along the minor circumference of the torus). It can take values from  $-180^\circ$  to  $180^\circ$ .

*Maximum value of Phi (deg)*: This is the maximum value of the  $\phi$  angle (along the minor circumference of the torus). It can take values from  $-180^\circ$  to  $180^\circ$ .

*Major radius*: This parameter defines the radius of the major circumference.

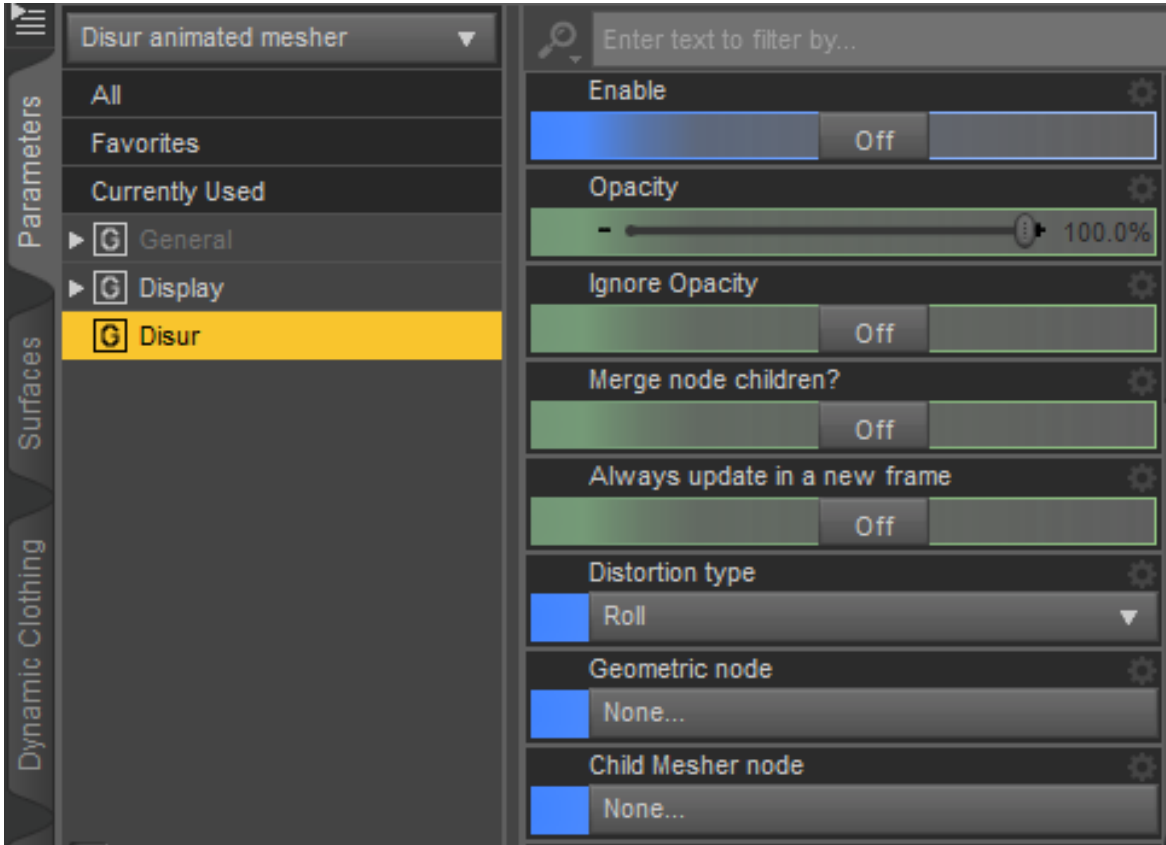
*Minor radius*: This parameter defines the radius of the minor circumference.



## **Disur Mesher node:**

This node has the same settings as the *Disur Pane*, but it can keep them between Daz Studio sessions, whereas the *Pane* cannot. The *Disur Pane* will start with the defaults at each new Daz Studio session.

The *Disur Mesher* is able to animate the deformation through its animatable parameters. Moreover, the meshers can be stacked, so the deformations are consecutively applied to the surface.

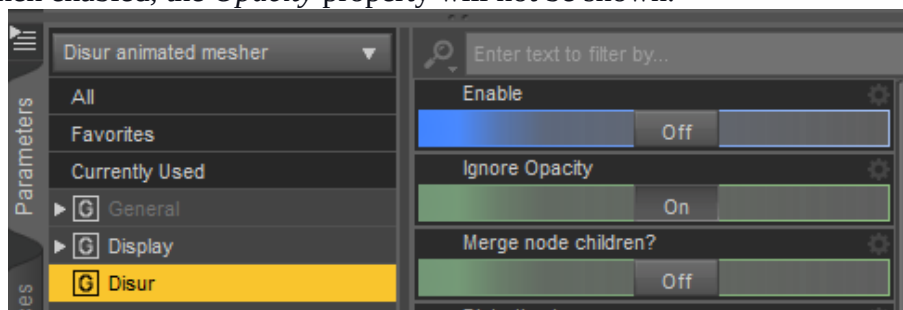


### **Parameters:**

**Enable:** If this property is *On*, the *Disur Mesher node* will activate the deformation indicated by this *mesher*. If this is the upper mesher of a stack, and it is enabled, it shows the results of the deformations.

**Opacity:** This property controls the shader channel of opacity. It can be used to animate the fading of the lightning. It is animatable.

**Ignore Opacity:** If this property is *On*, the shader channel of opacity will be ignored. It is useful when shaders use a specific value of opacity to create some transparency, an effect that the *Opacity* property could destroy. When enabled, the *Opacity* property will not be shown.



*Geometric node*: This property selects the node (a geometric one) that will be the initial surface to be deformed. When stacked *meshers* are used, all the *Geometric nodes* of the *meshers* will be ignored, except for the lowermost *mesher* one.

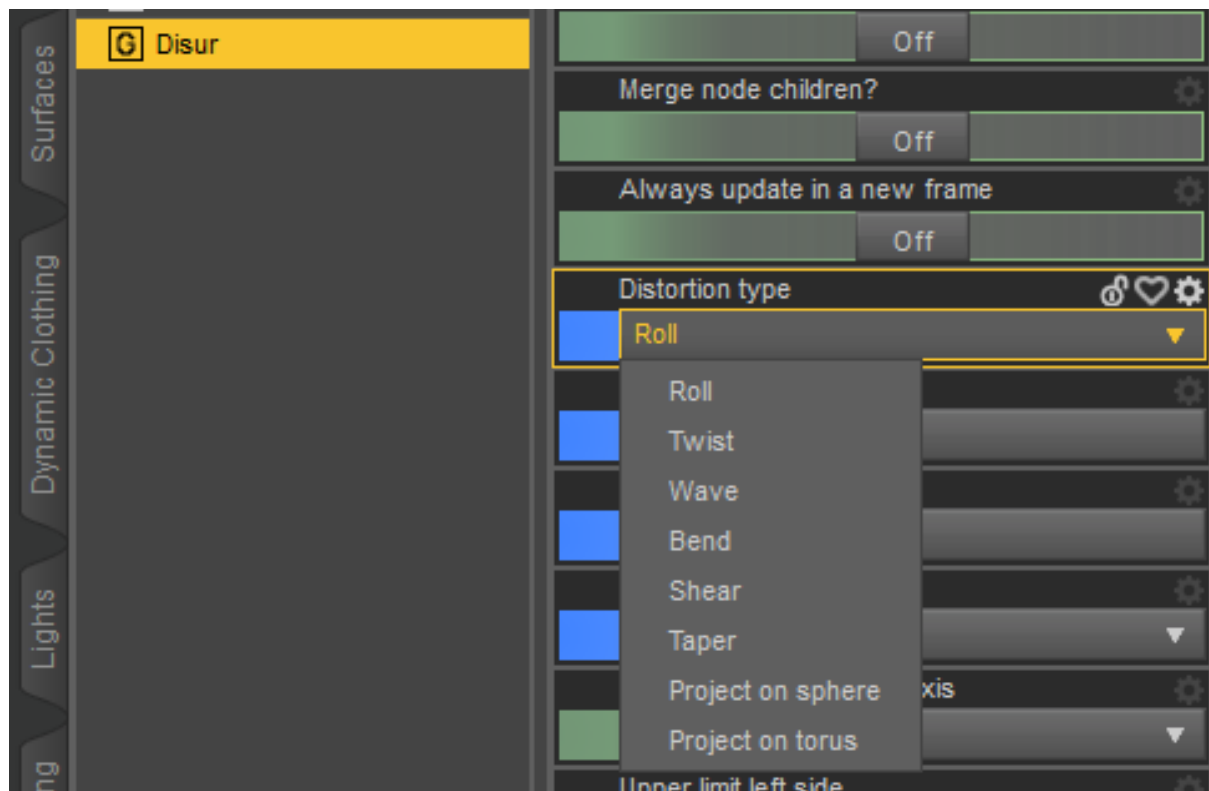
*Merge node children?*: If this property is *On*, the mesher will merge the selected node with its node children so that all of them will be uniformly distorted.

*Always update in a new frame*: Normally, the mesher updates when changing the frame in the Timeline if there is a change in any property (that is the property is animated); otherwise that does not update.

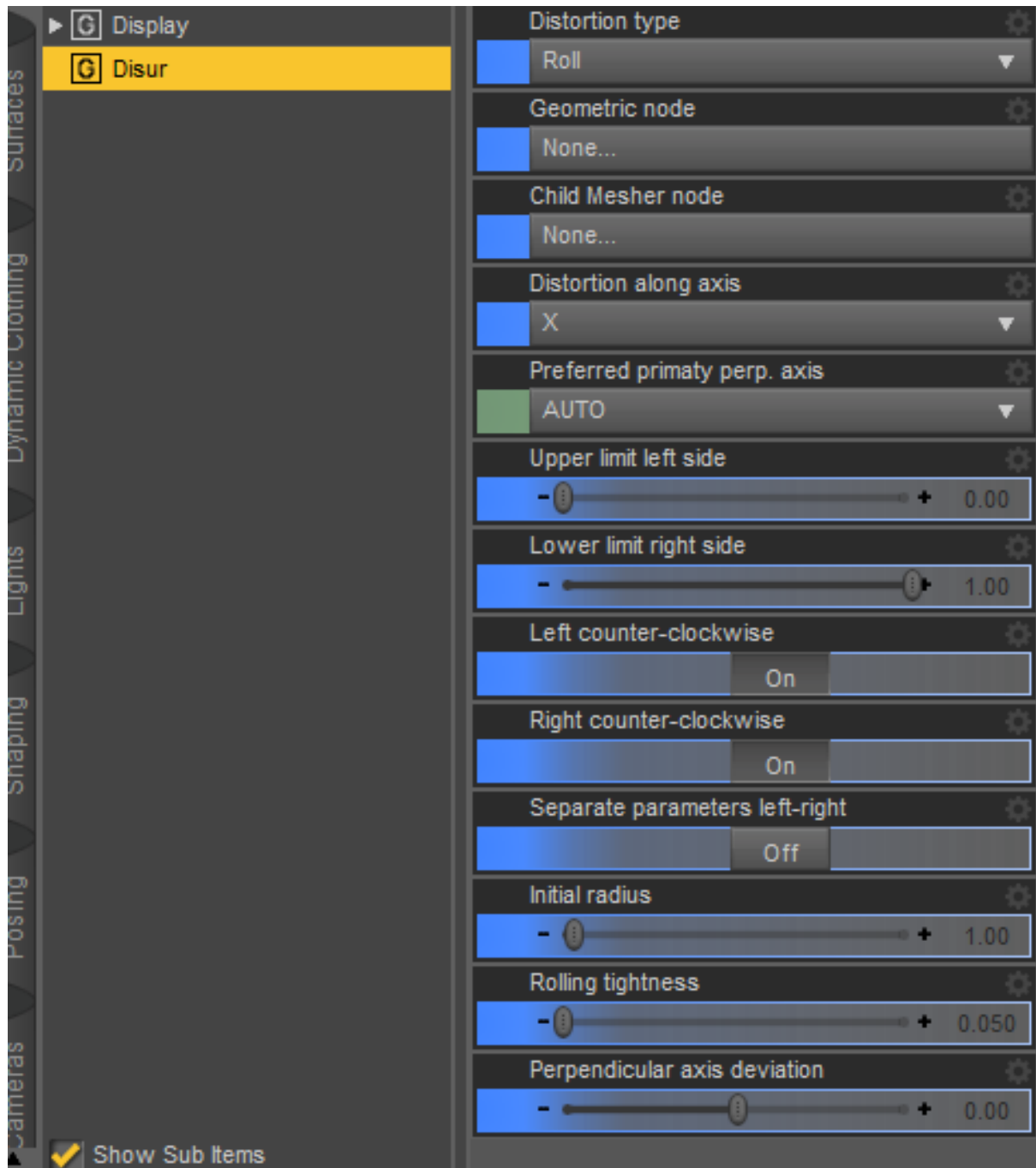
*Child Mesher node*: This property can select another *Disur mesher*. The meshers can be connected to apply one distortion over the another. The upper mesher will show the sum of all the distortions, and the lowermost mesher is the one that contains the original surface.

*Distortion type*: This property defines the type of distortion this *mesher* will execute on the surface. The types are the same as the Pane:

- Roll
- Twist
- Wave
- Bend
- Shear
- Taper
- Project on Sphere
- Project on Torus



## Roll:



*Distortion along axis:* This property is equivalent to the corresponding *Distortion along axis Roll* parameter of the Pane.

*Preferred primary perp. axis:* This property is equivalent to the corresponding *Preferred primary perpendicular axis Roll* parameter of the Pane.

*Upper limit left side:* This property is equivalent to the corresponding *Left side limit Roll* parameter of the Pane. It is animatable

*Lower limit right side:* This property is equivalent to the corresponding *Right side limit Roll* parameter of the Pane. It is animatable.

*Left counter-clockwise*: This property is equivalent to the corresponding *Counter-clockwise Roll* parameter of the Pane.

*Right counter-clockwise*: This property is equivalent to the corresponding *Right Counter-clockwise Roll* parameter of the Pane.

*Initial radius*: This property is equivalent to the corresponding *Initial Radius Roll* parameter of the Pane. It is animatable.

*Perpendicular axis deviation*: This property is equivalent to the corresponding *Perpendicular axis deviation Roll* parameter of the Pane. It is animatable.

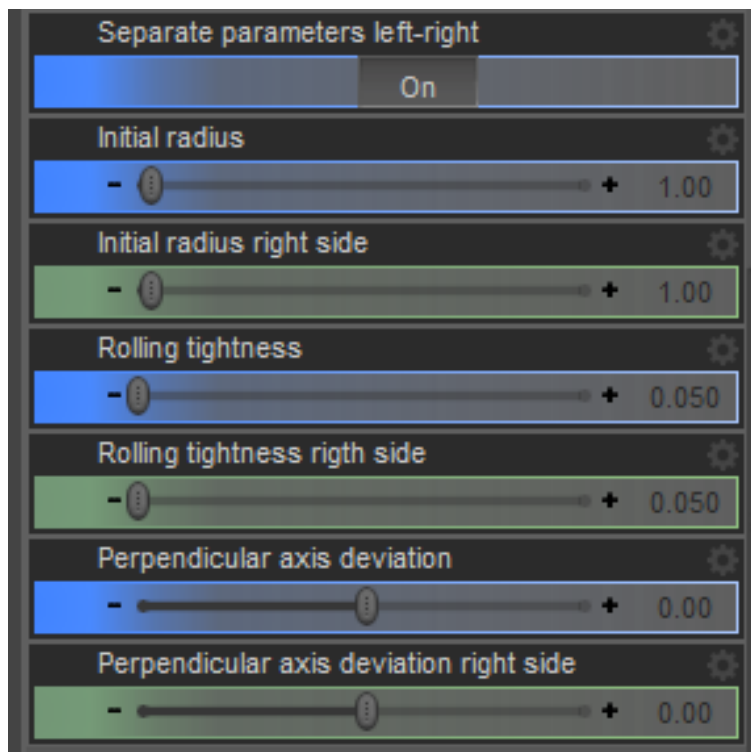
*Rolling tightness*: This property is equivalent to the corresponding *Rolling tightness Roll* parameter of the Pane. It is animatable.

*Separate parameters left-right*: This property is equivalent to the corresponding *Separate parameters left-right Roll* parameter of the Pane. When enabled, the right side properties are visible:

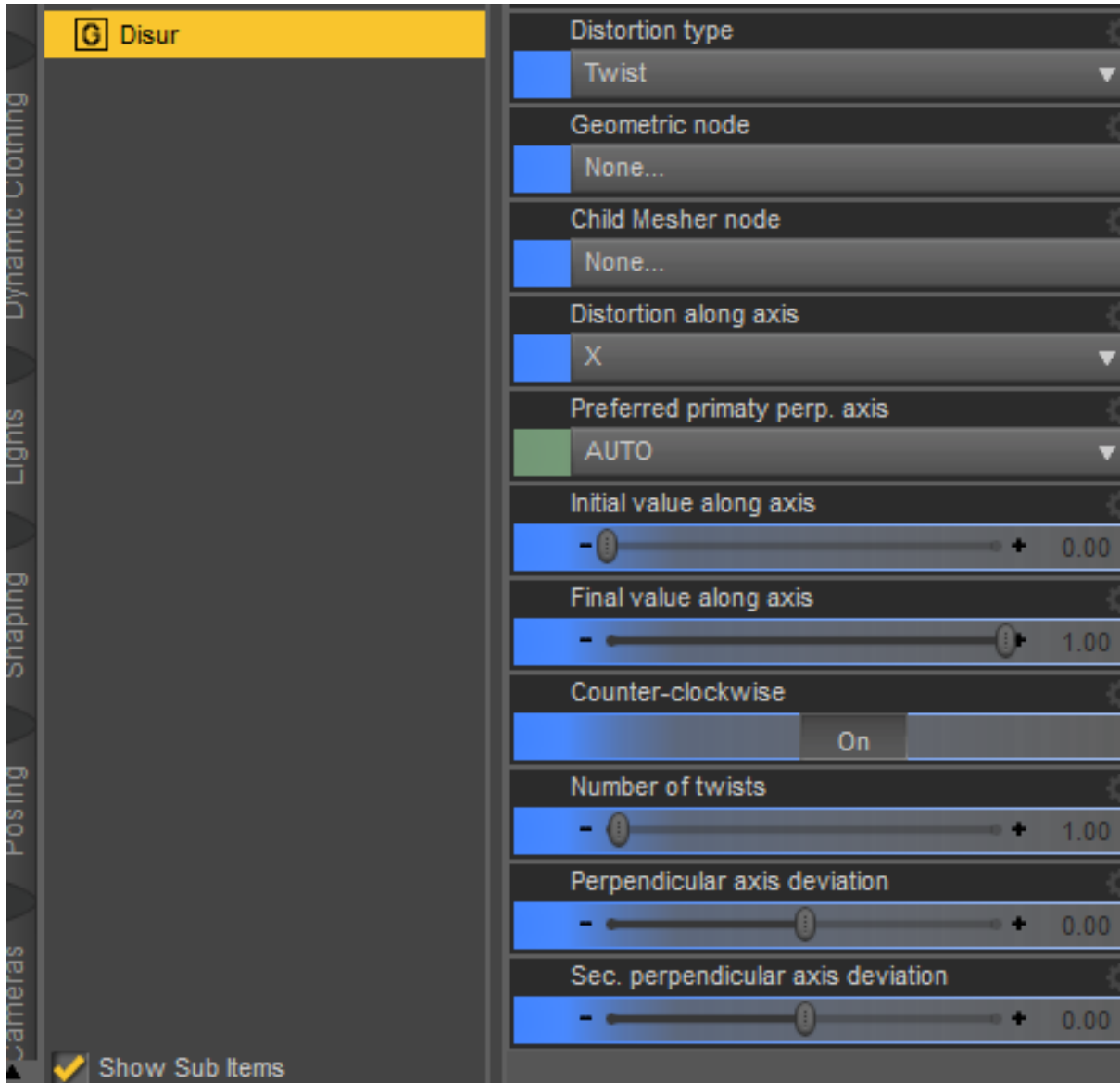
*Initial radius right side*: This property is equivalent to the corresponding *Initial Radius right Roll* parameter of the Pane. It is animatable.

*Perpendicular axis deviation right side*: This property is equivalent to the corresponding *Perpendicular axis deviation right Roll* parameter of the Pane. It is animatable.

*Rolling tightness right side*: This property is equivalent to the corresponding *Rolling tightness right Roll* parameter of the Pane. It is animatable.



## Twist:



*Distortion along axis*: This property is equivalent to the corresponding *Distortion along axis Twist* parameter of the Pane.

*Preferred primary perp. axis*: This property is equivalent to the corresponding *Preferred primary perpendicular axis Twist* parameter of the Pane.

*Initial value along axis*: This property is equivalent to the corresponding *Initial value along axis Twist* parameter of the Pane. It is animatable.

*Final value along axis*: This property is equivalent to the corresponding *Final value along axis Twist* parameter of the Pane. It is animatable.

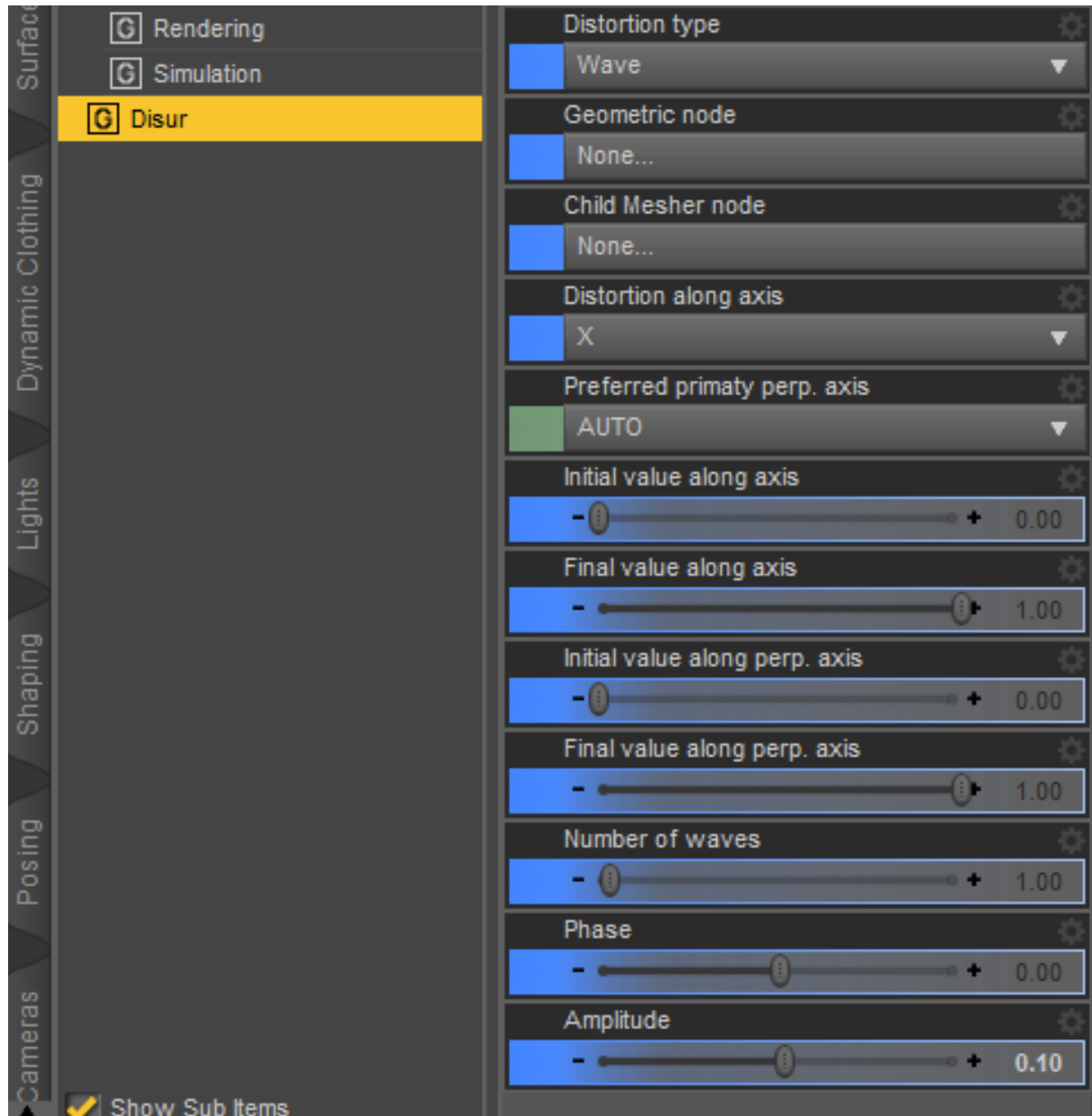
*Counter-clockwise*: This property is equivalent to the corresponding *Counter-clockwise Twist* parameter of the Pane.

*Number of twists*: This property is equivalent to the corresponding *Number of twistings Twist* parameter of the Pane. It is animatable.

*Perpendicular axis deviation*: This property is equivalent to the corresponding *Perpendicular axis deviation Twist* parameter of the Pane. It is animatable.

*Sec. perpendicular axis deviation*: This property is equivalent to the corresponding *Secondary perpendicular axis deviation Twist* parameter of the Pane. It is animatable.

### Wave:



*Distortion along axis*: This property is equivalent to the corresponding *Distortion along axis Wave* parameter of the Pane.

*Preferred primary perp. axis*: This property is equivalent to the corresponding *Preferred primary perpendicular axis Wave* parameter of the Pane.

*Initial value along axis*: This property is equivalent to the corresponding *Initial value along axis Wave* parameter of the Pane. It is animatable.

*Final value along axis*: This property is equivalent to the corresponding *Final value along axis Wave* parameter of the Pane. It is animatable.

*Final value along sec. axis*: This property is equivalent to the corresponding *Initial value along perpendicular axis Wave* parameter of the Pane. It is animatable.

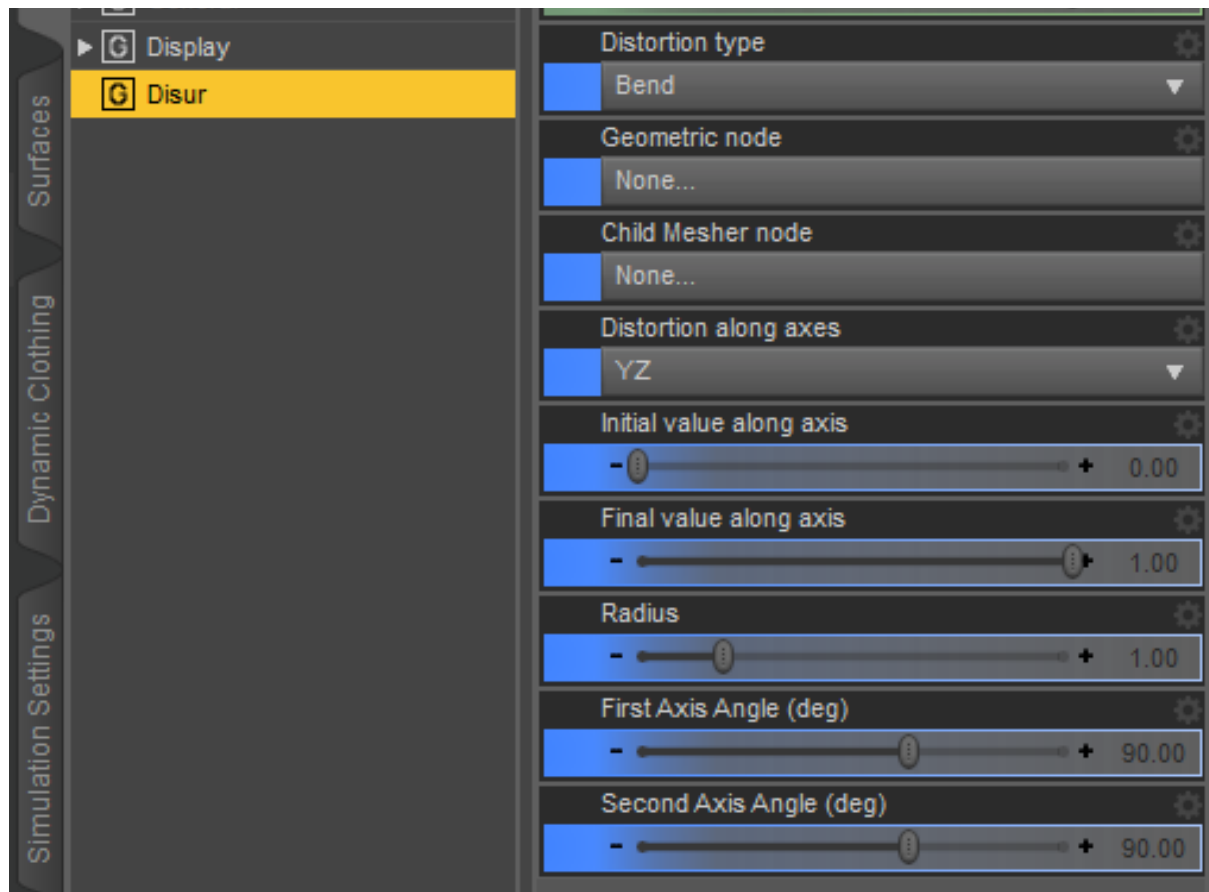
*Final value along sec. axis*: This property is equivalent to the corresponding *Final value along perpendicular axis Wave* parameter of the Pane. It is animatable.

*Number of waves*: This property is equivalent to the corresponding *Number of waves Wave* parameter of the Pane. It is animatable.

*Phase*: This property is equivalent to the corresponding *Phase Wave* parameter of the Pane. It is animatable.

*Amplitude*: This property is equivalent to the corresponding *Amplitude Wave* parameter of the Pane. It is animatable.

**Bend:**



*Distortion along axes*: This property is equivalent to the corresponding *Distortion along axes Bend* parameter of the Pane.

*Initial value along axis*: This property is equivalent to the corresponding *Initial value along axis Bend* parameter of the Pane. It is animatable.

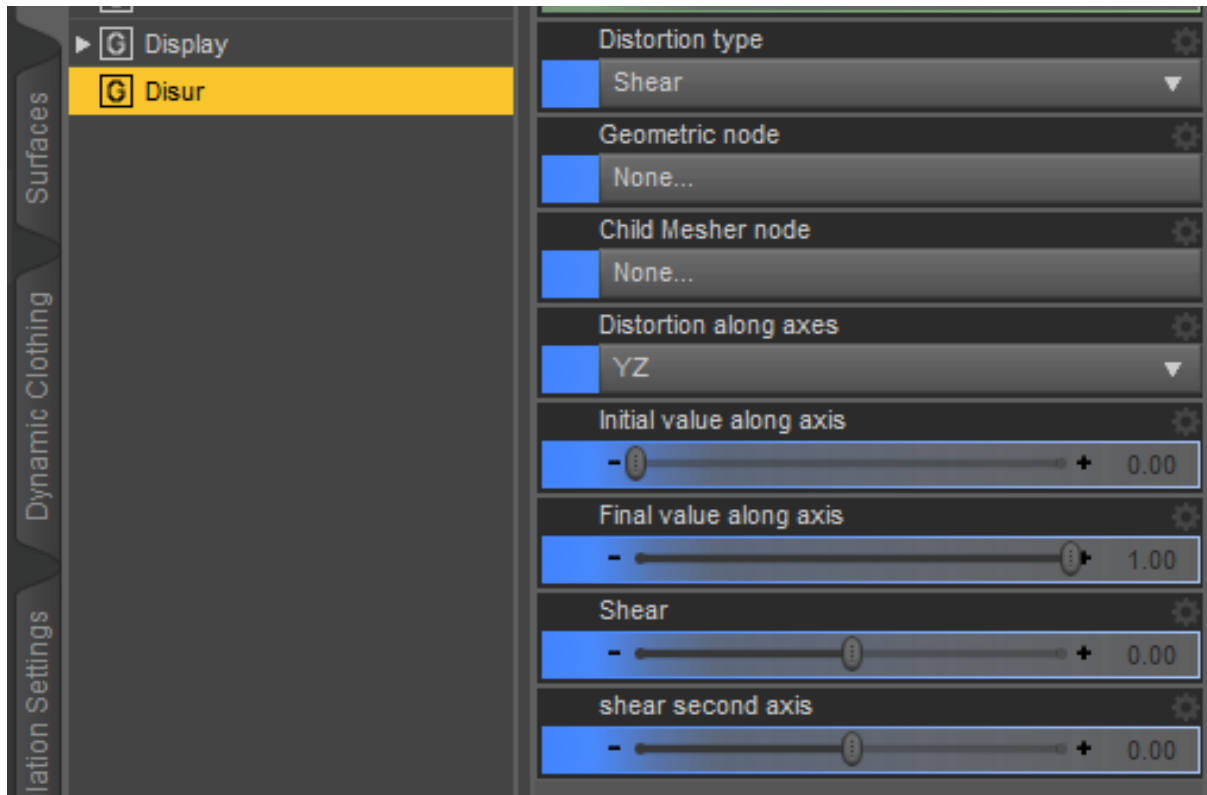
*Final value along axis*: This property is equivalent to the corresponding *Final value along axis Bend* parameter of the Pane. It is animatable.

*Radius*: This property is equivalent to the corresponding *Radius* parameter of the Pane. It is animatable.

*First axis angle (deg)*: This property is equivalent to the corresponding *First axis angle Bend* parameter of the Pane. It is animatable.

*Second axis angle (deg)*: This property is equivalent to the corresponding *Second axis angle Bend* parameter of the Pane. It is animatable.

## Shear:



*Distortion along axes:* This property is equivalent to the corresponding *Distortion along axes Shear* parameter of the Pane.

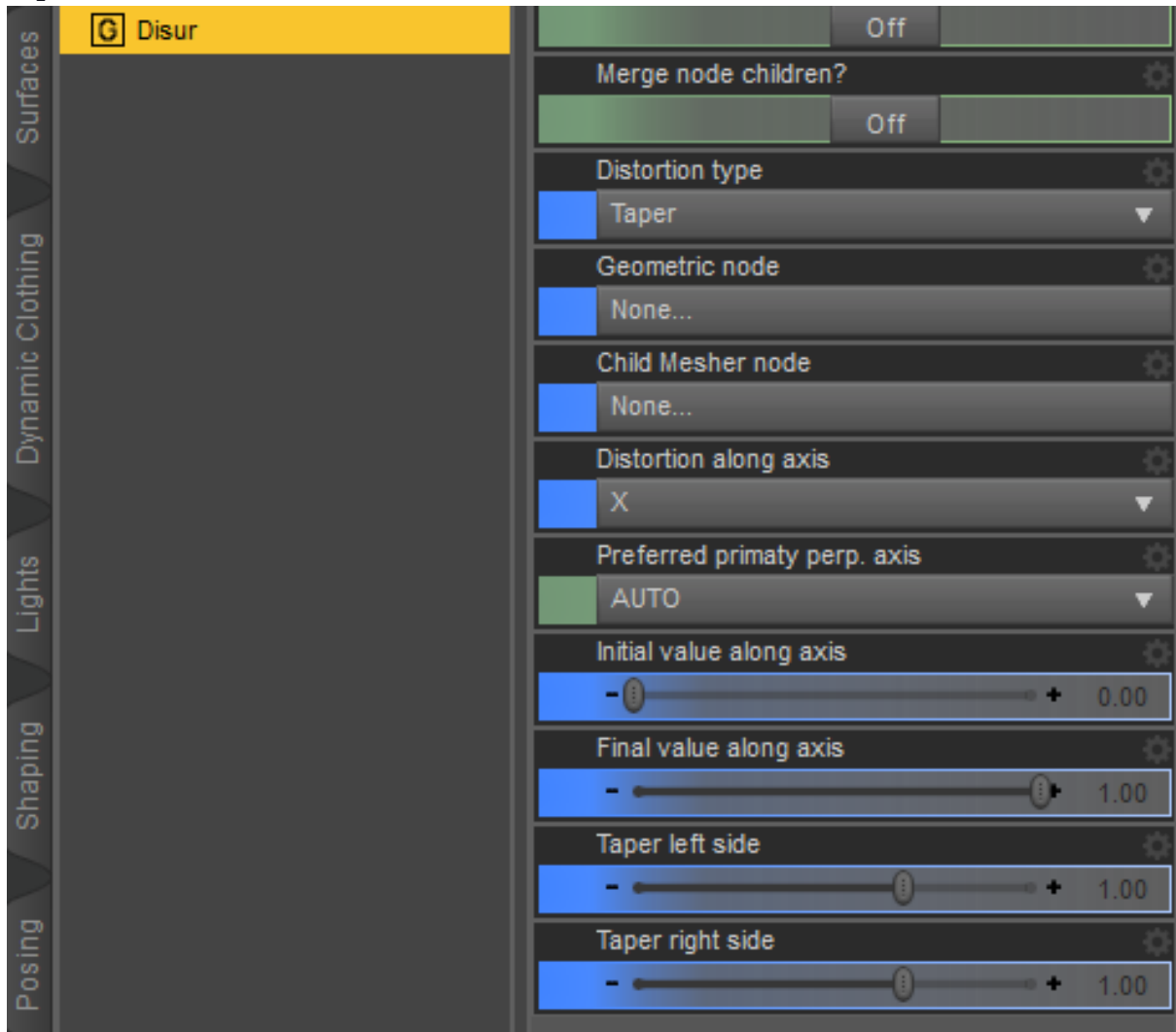
*Initial value along axis:* This property is equivalent to the corresponding *Initial value along axis Shear* parameter of the Pane. It is animatable.

*Final value along axis:* This property is equivalent to the corresponding *Final value along axis Shear* parameter of the Pane. It is animatable.

*Shear first axis:* This property is equivalent to the corresponding *Shear first axis Shear* parameter of the Pane. It is animatable.

*Shear second axis:* This property is equivalent to the corresponding *Shear second axis Shear* parameter of the Pane. It is animatable.

## Taper:



*Distortion along axes:* This property is equivalent to the corresponding *Distortion along axes Taper* parameter of the Pane.

*Preferred primary perp. axis:* This property is equivalent to the corresponding *Preferred primary perpendicular axis Roll* parameter of the Pane.

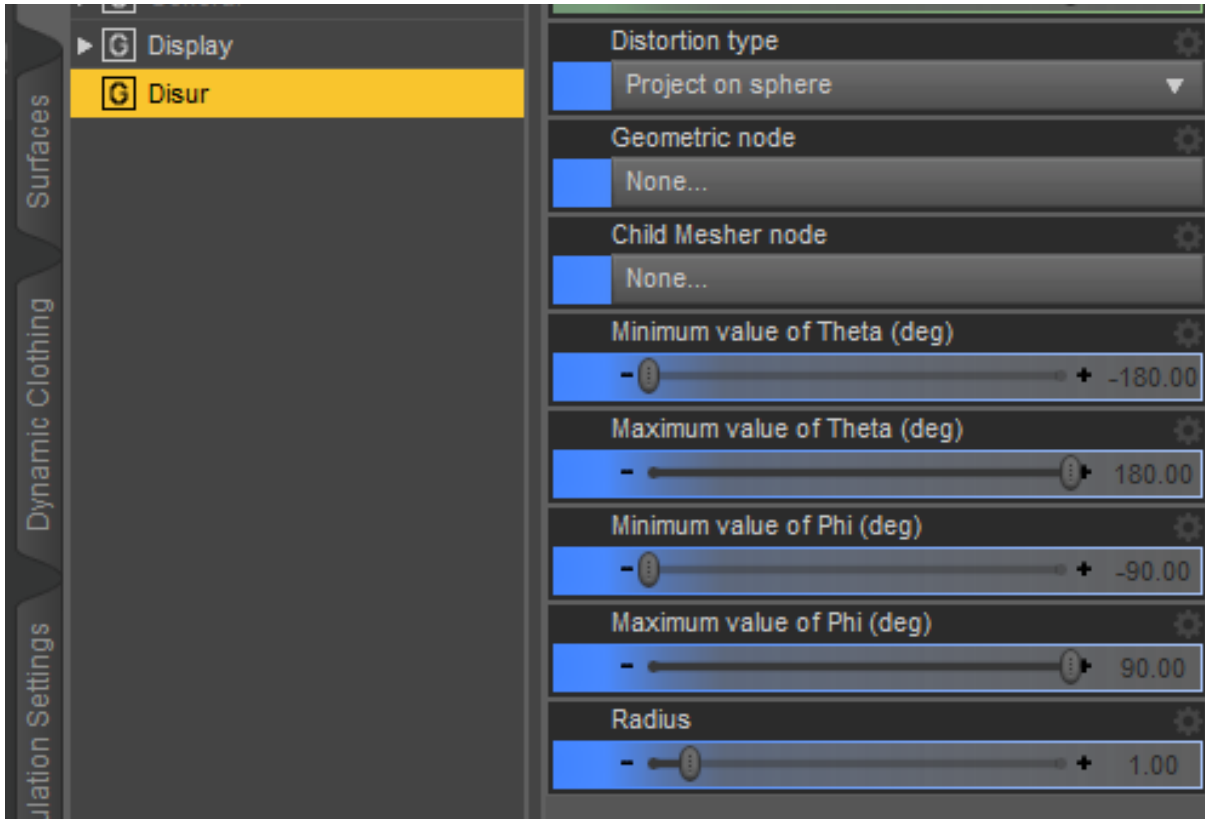
*Initial value along axis:* This property is equivalent to the corresponding *Initial value along axis Taper* parameter of the Pane. It is animatable.

*Final value along axis:* This property is equivalent to the corresponding *Final value along axis Taper* parameter of the Pane. It is animatable.

*Taper left side:* This property is equivalent to the corresponding *Taper left side Taper* parameter of the Pane. It is animatable.

*Taper right side:* This property is equivalent to the corresponding *Taper right side Taper* parameter of the Pane. It is animatable.

## Project on Sphere:



*Minimum value of Theta (deg)*: This property is equivalent to the corresponding *Minimum value of Theta* parameter of the Pane. It is animatable.

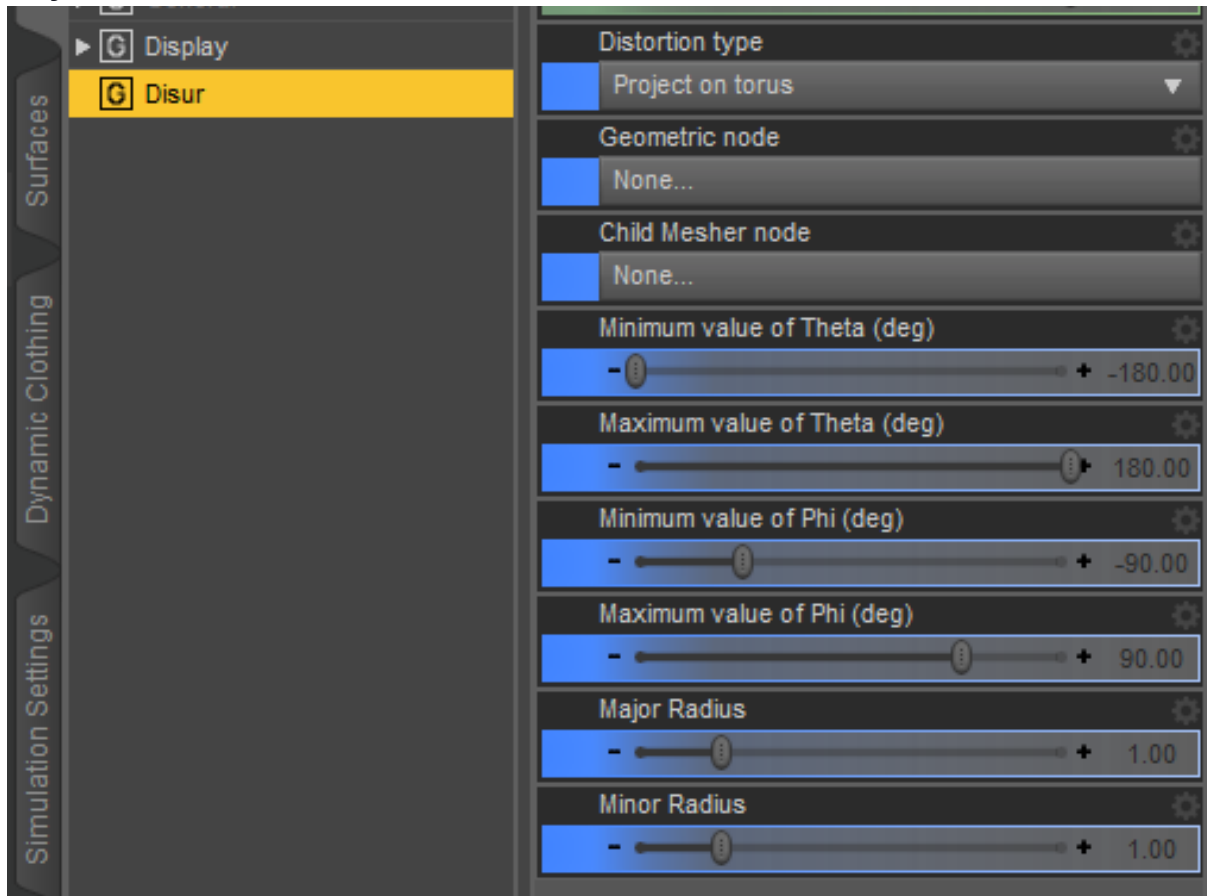
*Maximum value of Theta (deg)*: This property is equivalent to the corresponding *Maximum value of Theta* parameter of the Pane. It is animatable.

*Minimum value of Phi (deg)*: This property is equivalent to the corresponding *Minimum value of Phi* parameter of the Pane. It is animatable.

*Maximum value of Phi (deg)*: This property is equivalent to the corresponding *Maximum value of Phi* parameter of the Pane. It is animatable.

*Radius*: This property is equivalent to the corresponding *Radius* parameter of the Pane. It is animatable.

## Project on Torus:



*Minimum value of Theta (deg):* This property is equivalent to the corresponding *Minimum value of Theta* parameter of the Pane. It is animatable.

*Maximum value of Theta (deg):* This property is equivalent to the corresponding *Maximum value of Theta* parameter of the Pane. It is animatable.

*Minimum value of Phi (deg):* This property is equivalent to the corresponding *Minimum value of Phi* parameter of the Pane. It is animatable.

*Maximum value of Phi (deg):* This property is equivalent to the corresponding *Maximum value of Phi* parameter of the Pane. It is animatable.

*Major Radius:* This property is equivalent to the corresponding *Major radius* parameter of the Pane. It is animatable.

*Minor Radius:* This property is equivalent to the corresponding *Minor radius* parameter of the Pane. It is animatable.

## How to do a static deformation of a surface:

1. Select the surface node (The simpler is a Plane Primitive). The mesh should be dense enough to be distorted (preferably more than 3000 polygons); however, very dense meshes will take more time to be completed.
2. Select the *Distortion type* in the Disur Pane.
3. Adjust the parameters according to the desired results.
4. Click on the *Distort* button of the pane to perform the distortion.

## How to do a kinematic deformation of a surface:

1. Select the surface node (or you can wait to select later). Click on *Create Disur Mesher node* button.
2. In the created *mesher*, select the distortion type in the *Distortion type* property.
3. Adjust the properties according to the desired results. You can animate most of the properties by using keyframes.
4. If the surface to distort is not defined yet, click on the *Geometric node* property to select a suitable one.
5. Set *On* the *Enable* property to see the results. Move the Daz Studio's *Timeline slider* (the yellow triangle) to see the animation.  
Set the original surface node to invisible if needed.  
Do not delete the original surface node because the *Mesher* will always need it to work.

If you want to apply a stacked group of distortions to a surface:

1. Create as many *meshers* as distortions you want to apply.
2. In the *meshers*, select the distortion types, one for each mesher.
3. The *mesher* with the first distortion type to be applied *must* have selected the original surface in the *Geometric node* property, the remaining *meshers* should not have selected the *Geometric node* because it will be ignored.
4. Connect the *meshers* by using the *Child Mesher node* property to point to the previous *mesher* in the sequence of distortions. The *mesher* with the desired initial distortion will have the original surface in the *Geometric node* property, but the *Child Mesher node* property *must* be empty. The mesher with the following distortion in the desired sequence must have its *Child Mesher node* property set to the mesher with the initial distortion. And go on until the mesher with the last distortion.
5. Set *On* the *Enable* property of all the *meshers* to see the results.
6. If a *mesher* is disabled, its distortion type will be bypassed. The *mesher* with the first distortion (the one whose *Geometric node* property points to the original surface) should not be disabled, otherwise, no distortion will be executed, and the result will be a void mesh. If the mesher with the last distortion is not enabled, the result will be a void mesher again.
7. The result mesh will be in the mesher with the last distortion.
8. The original surface will always be intact. You can set it to *invisible*, but do not delete it from the scene.

When using a Mesher, it is better to animate the original surface (morphs and transforms); the mesher, when updating, will reflect the changes. However, the mesher will not update if none of its Disur properties are animated. In this case:

- Enable the *Always update in a new frame* property of the *mesher*, or
- Use a static distorted surface (using the *Pane*), and animate it, or
- Bake the *mesher*, and animate it.

The last two methods only works when the animation of the original surface consists only in changes on the transforms (translation, rotation, and scaling), whereas the first one can manage any changes (including morphs and textures).

Normally, you do not want to animate the transforms of the *Mesher* because the changes will overlay those in the original surface. However, you can do it if it allows you to achieve your goals (and if you know what you are doing).

### **Note about non-standard shaders:**

The plugin may not replicate some non-standard shaders during the distortion process. An example is the Oso Janus Double-Sided Shader (<https://www.daz3d.com/oso-janus-double-sided-shader-merchant-resource-for-iray>). In the case you have applied one of these shaders to an original surface, and it isn't copied to the distorted object, you should manually apply the shader also to the final object, being a static deforming or a Mesher. In the case of the Mesher, once the shader is applied, it will remain properly in the Mesher during an animation.

However, the Meshers that have enabled the *Merge node children* property will not work properly with those non-standard shaders whatsoever.

**Acknowledgments:**

I wish to thank *Imago* from Daz Studio forums for his help with beta testing and his valuable suggestions.