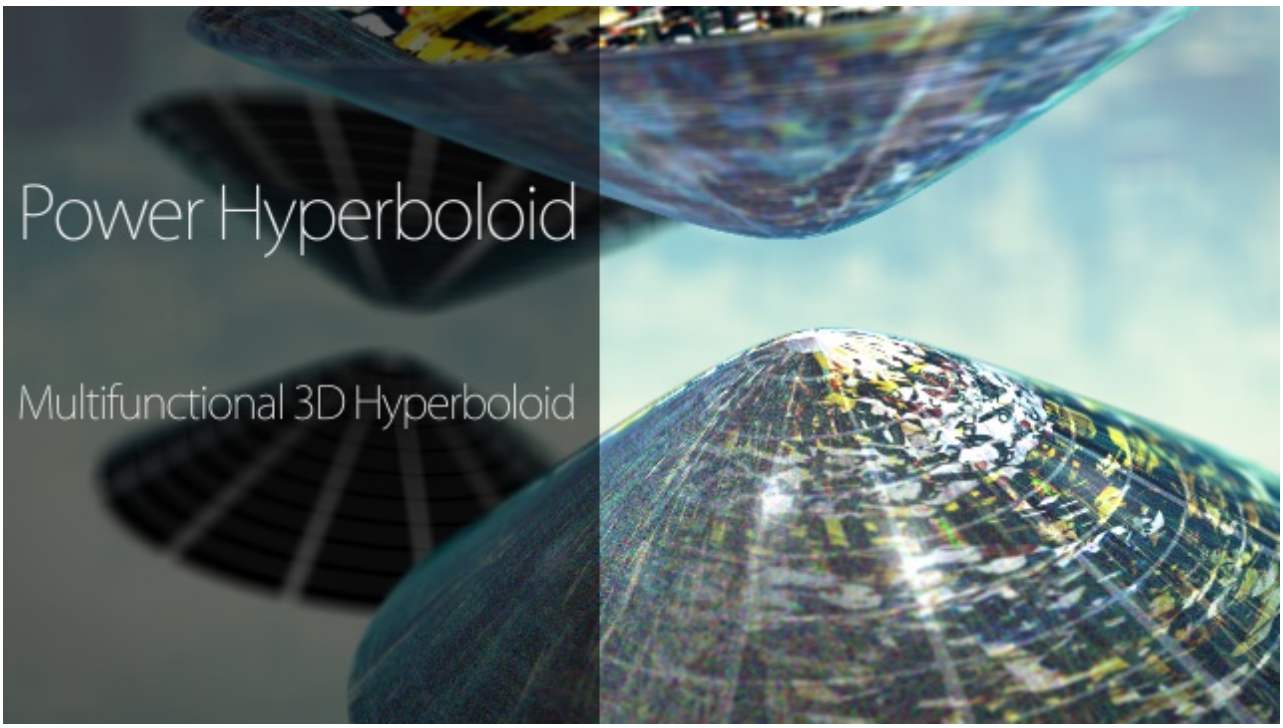
Power Hyperboloid

Adobe After Effects®



User Manual

version 1.00

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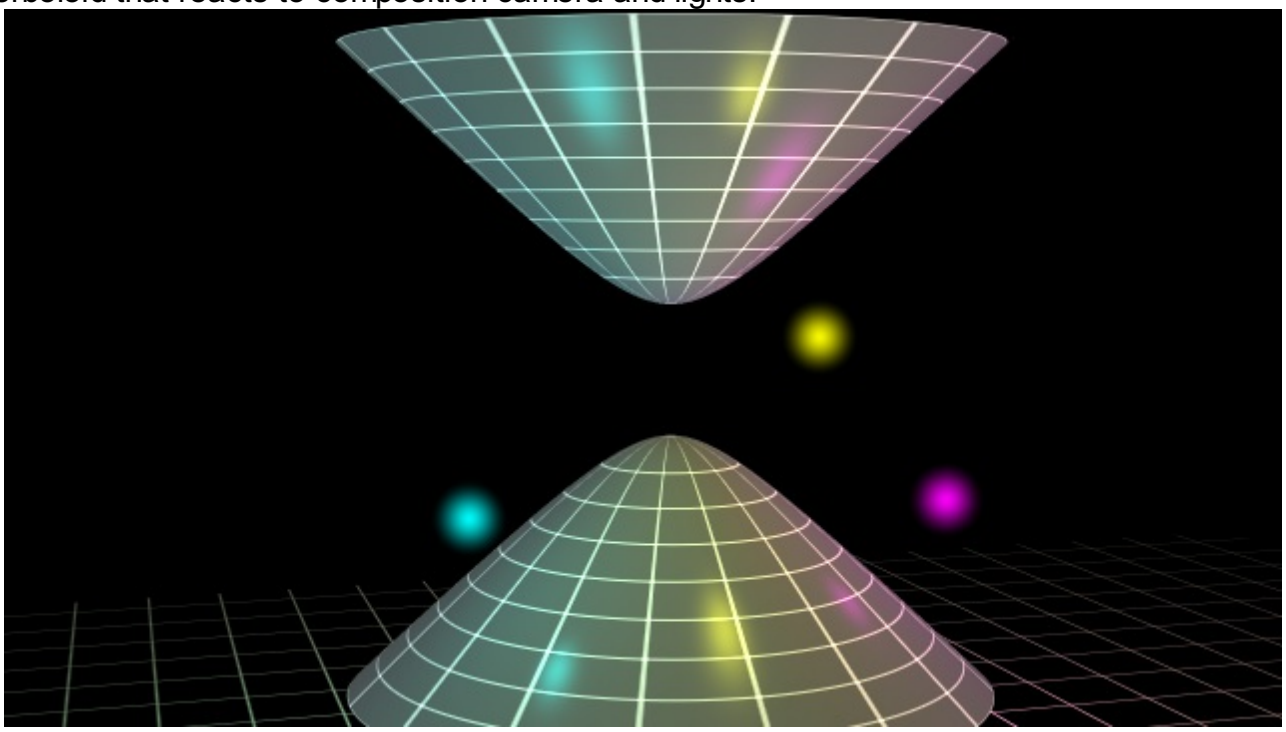
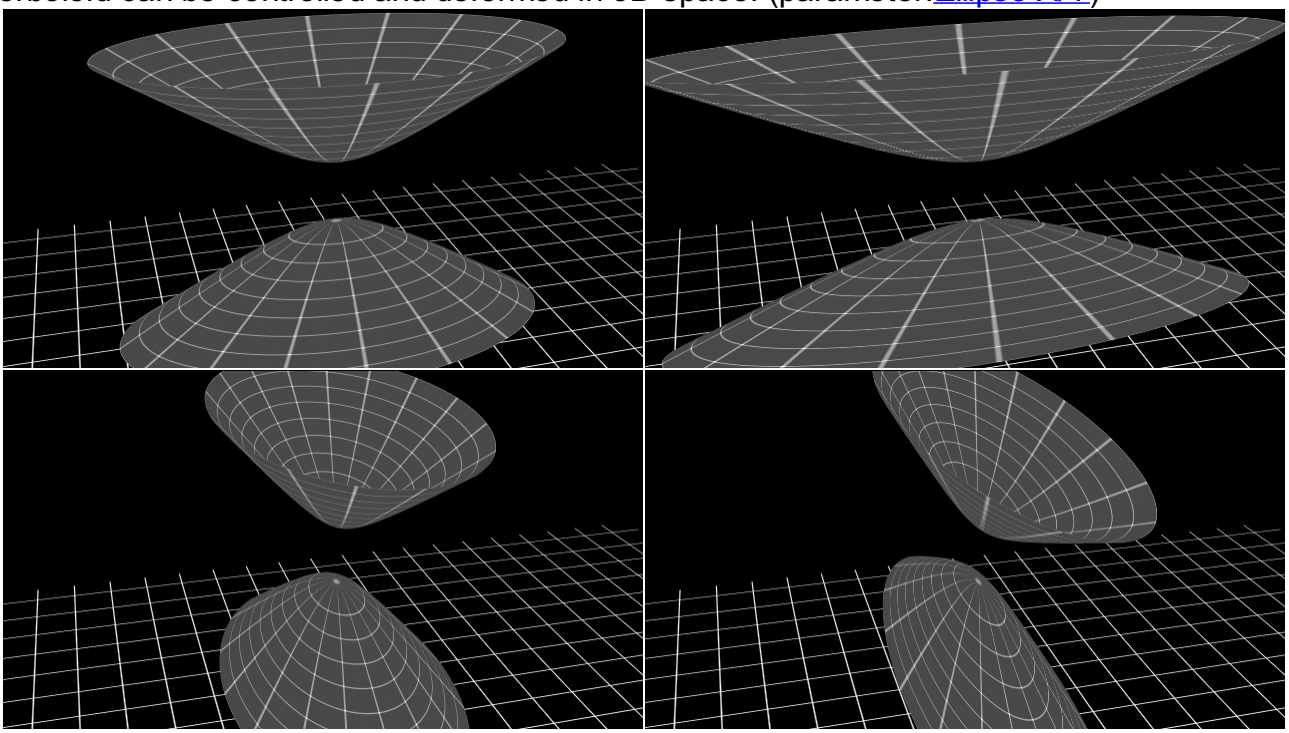
Overview

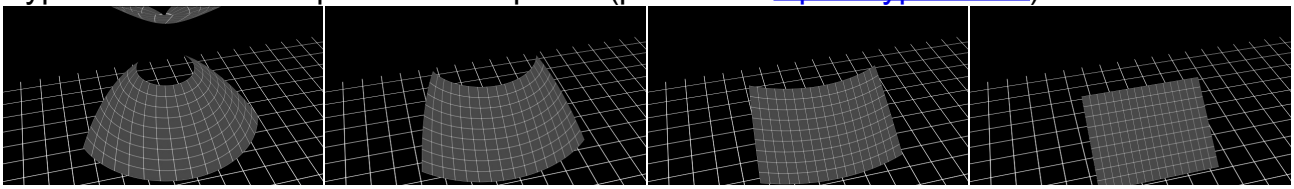
Power Hyperboloid is plugin of Adobe After Effects®. It renders a fully controllable 3D hyperboloid that reacts to composition camera and lights.



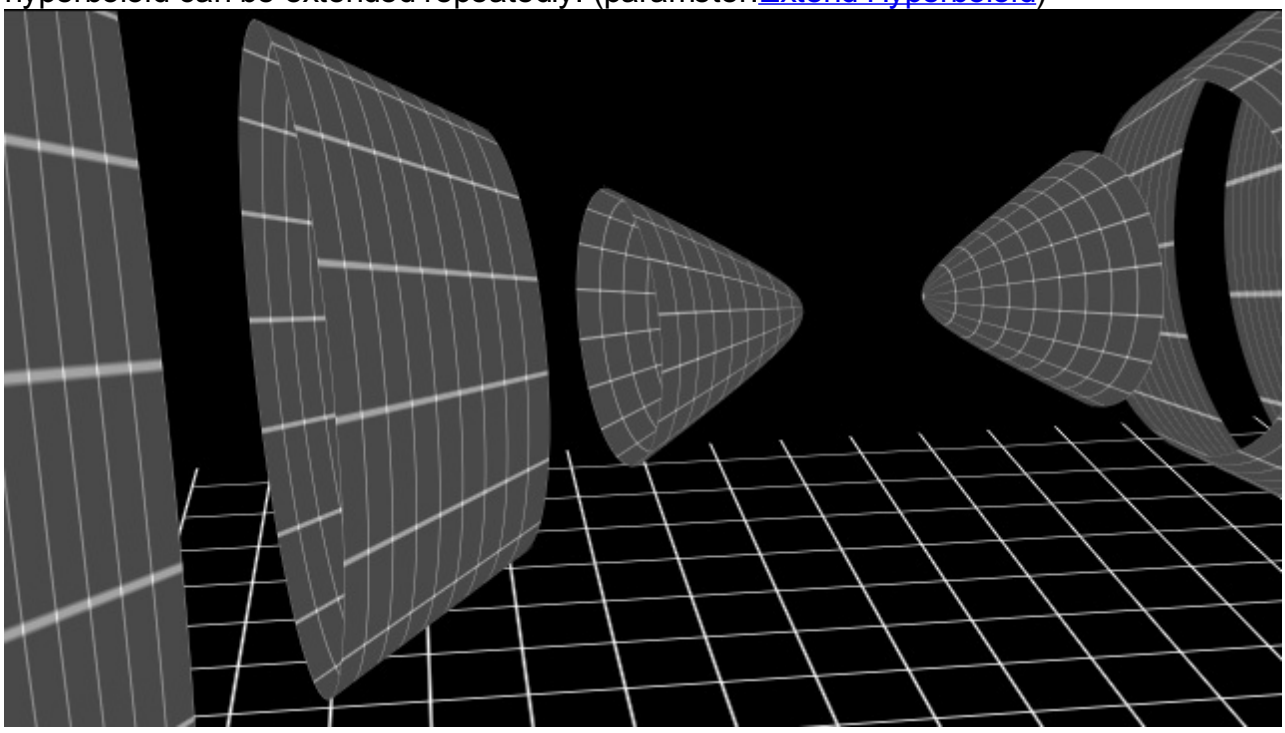
Hyperboloid can be controlled and deformed in 3D space. (parameter:Ellipse X/Y)



The hyperboloid can be "opened" into a plane. (parameter:Open Hyperboloid)



The hyperboloid can be extended repeatedly. (parameter:Extend Hyperboloid)



The hyperboloid can self shadow, depth composite and render a depth of field blur for very realistic results.

Setup

Platform

Adobe After Effects (Windows, Mac OS X) CS5 or later

Install

Place the plugin in the **'Plug-ins'** folder inside the After Effects folder. Default directory is:

(win)
C:\Program Files\Adobe\Adobe After Effects XX\Support Files\Plug-ins

(mac)
/Applications/Adobe After Effects XX/Plug-ins

Uninstall

1. Launch After Effects and apply Power Hyperboloid to a layer. Click "Register" or "About..." button in the top of effect panel.
2. Click "Unregister" button on the popup panel.
3. A popup to confirm will appear, click "Yes".
4. Shut down After Effects, and remove the plugin from the 'Plug-ins' folder.

Setup

Prepare a layer the same size and pixel aspect ratio as the Composition.
Apply the effect (Effect > CROSSPHERE > Power Hyperboloid) to the layer.
By default, no texture is set, and the hyperboloid will show UV coordinate of the hyperboloid. User can set a layer as texture of the hyperboloid by "Texture" parameter.
For other detail operations, see the next section.

Parameters

Texture

Assigns the layer as the texture of hyperboloid. If no layer is assigned, the hyperboloid will show UV coordinates.

Transform

These parameters control the transform of the hyperboloid.

Slide Texture

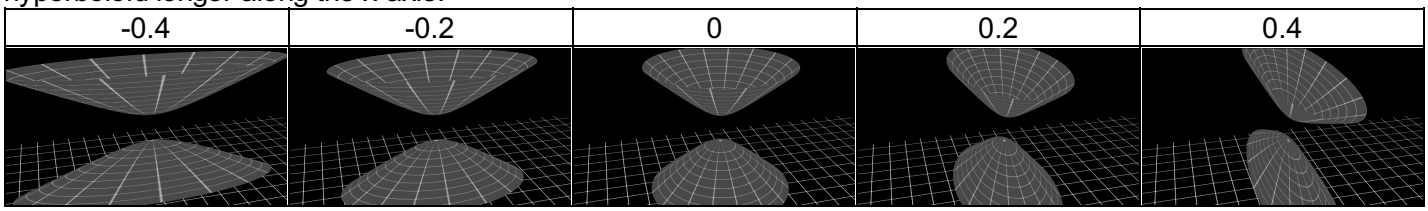
Slide texture around the z-axis of the hyperboloid.

Control Layer

If a layer is assigned to this parameter, the hyperboloid copies the transformation of the assigned layer. Make sure to make the layer 3D.

Ellipse X/Y

Deforms the hyperboloid along the x-axis or y-axis of the hyperboloid. Positive value makes the hyperboloid longer along the x-axis.



Ellipse X/Y Parameters and deformation of the hyperboloid.

Dist. from Center

Controls the distance between hyperboloid surface and its center position.

Radius Scale

Controls the scale of the radius of the hyperboloid.

Height Scale

Controls the scale of the height of the hyperboloid.

Position XY

Position Z

Control the center position of the hyperboloid.

Rotation X

Rotation Y

Rotation Z

Control the rotation of the hyperboloid.

Open Hyperboloid

Show Pivot

Shows where the pivot point is.

Fixed Point U

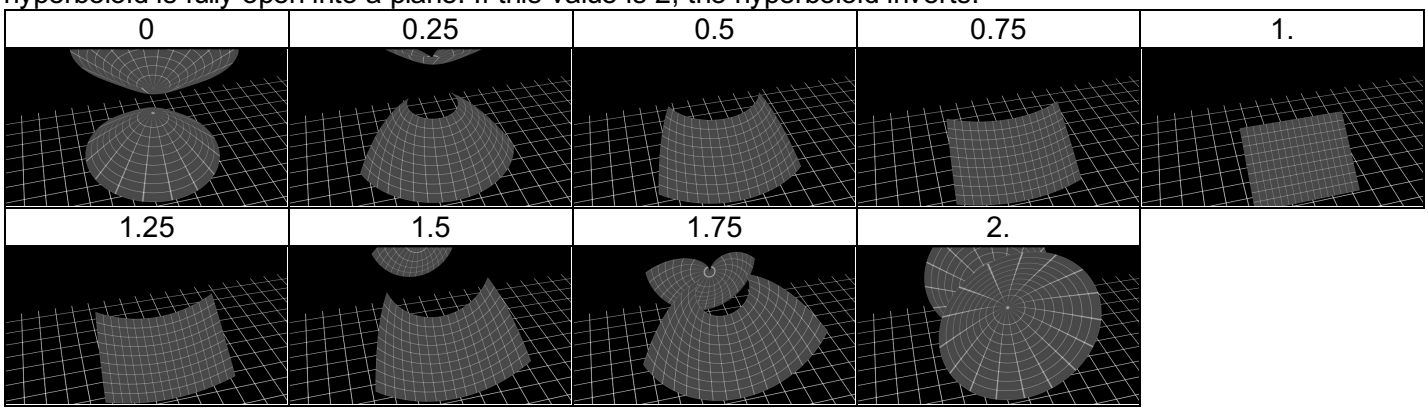
Controls the U coordinate of the pivot.

Fixed Point V

Controls the V coordinate of the pivot.

Open Parameter

Opens the hyperboloid. If this value is 0, the hyperboloid is closed. If this value is 1, the hyperboloid is fully open into a plane. If this value is 2, the hyperboloid inverts.



Open parameters and how much the hyperboloid opens.

Extend Hyperboloid

Extends hyperboloid repeatedly along to its axis.

Extension Side

Specifies the direction of extension.

- Head Side
  The hyperboloid is extended to the upper side of its texture (y-minus side of the hyperboloid).
- Tail Side
  The hyperboloid is extended to the lower side of its texture (y-plus side of the hyperboloid).
- Both Sides
  The hyperboloid is extended to its both side.

Extensions

Controls the number of extended hyperboloids.

Flip Vertical

Controls whether to flip alternate textures vertically.

Screw

Controls screw angle between extended hyperboloids.

Interval

Controls interval between extended hyperboloids.

Shading

The hyperboloid accepts 3D lights from the composition.

Falloff

Falloff Radius

Falloff Distance

Control the falloff from Parallel , Point and Spot lights.

- None
  Illumination does not falloff as the distance between the hyperboloid and the light increases.
- Smooth
  Indicates a smooth linear falloff starting at the "Falloff Radius" and extending to the length specified by "Falloff Distance".
- Inverse Square Clamped
  Indicates a physically accurate falloff starting at the "Falloff Radius" and decreasing proportionally to the inverse square of the distance.

Self Shadow

Specifies whether the hyperboloid casts and accepts it's own shadow.

Light Transmission

Controls how much light the surface of the hyperboloid allows to pass through.

Emit

Controls how much color the hyperboloid emits without lights.

Ambient

Controls the ambient or nondirectional reflectivity of the hyperboloid.

Diffuse

Controls the diffuse or omnidirectional reflectivity of the hyperboloid.

Specular

Controls the directional or specular reflectivity/highlight of the hyperboloid.

Roughness

Determines the size of the specular highlight.

Metal

Controls the mix of the hyperboloid color with the color of the specular highlight.

Reflection Map

Specifies the layer to be used as a reflection map.

Reflection Intensity

Controls the intensity of the reflection.

Reflection Rolloff

Controls the rolloff of the reflection. Larger values decrease the reflection when the view direction and the normal of the surface are parallel.

Rendering

Rendering Side

Specifies whether only the inside or outside is rendered.

- Full
  Both inside and outside are rendered.
- Inside
  Inside only.
- Outside
  Outside only.

Rendering Side2

Specifies whether only the tail side or head side is rendered.

- Head Side
  Head side (y-minus side of the hyperboloid) only.
- Tail Side
  Tail side (y-plus side of the hyperboloid) only.
- Both Sides
  Both head and tail sides are rendered.

Use Composition Camera

Specifies whether the composition camera is used.

Depth Of Field

Specifies whether the depth of field (DOF) is used or not. To use DOF there must be an active camera in the composition.

- Off
  No DOF blur effect.
- Camera Settings
  DOF will use the settings of the active composition camera.
- On

Boost DOF Blur

Amplifies the DOF blur effect.

Sharpness

Controls the sharpness of the texture.

Depth Composite

Composite depends on the depth from the active camera.

Mode

Specifies the mode of the composite.

- Off
  No Composite
- Fog
  Composite the color specified by Fog Color depends on the depth.
- Fade Out
  Change the transparency by the depth.

Start depth

Specifies the depth to start composite.

End depth

Specifies the depth to complete composite.

Fog Color

Specifies the color of fog.

Other settings

Color Depth

8pbc, 16bpc and 32bpc

Camera

The hyperboloid will render using the active comp camera if one exists. The hyperboloid can also be controlled with these settings:

- Zoom
- Depth of Field (When Depth Of Field parameter of the hyperboloid is set to"Camera Settings")
- Focus Distance (When DOF blur effect used)
- Aperture (When DOF blur effect used)
- Blur Level (When DOF blur effect used)

To control the DOF blur effect, see Rendering Parameters

Light

The hyperboloid will render using the lights in the composition and has these controls:

- Intensity
- Color
- Cone Angle
- Cone Feather
- Casts Shadows (When the parameter "Self Shadow" is on)
- Shadow Darkness (When the parameter "Self Shadow" is on)

To control the hyperboloid shading from lights, see Shading Parameters.

Post Script

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Related Plug-ins

Power Sphere

Draws multifunctional 3D Sphere.
http://aescripts.com/power-sphere/

Power Cylinder

Draws multifunctional 3D Cylinder.
http://aescripts.com/power-cylinder/