# KPT FIBEROPTIX

What's in this Section:

Overview

KPT FiberOptix grows fibers that look like real hair or fur. Each fiber is rendered separately and can have its own color and tint. The KPT FiberOptix panels let you control the growth, color and lighting of fibers.

Using a mask, you can make fibers grow in a specific shape. For example, you can make hair grow out of text.

Previewing your Fibers

The preview in the Fiber Controls panel can be used to control the Main Preview. The preview in the panel displays a thumbnail of your entire image. The rectangle inside this preview represents the portion of the image displayed in the Main Preview window. You can drag this rectangle to change the portion of your image displayed in the Main Preview.
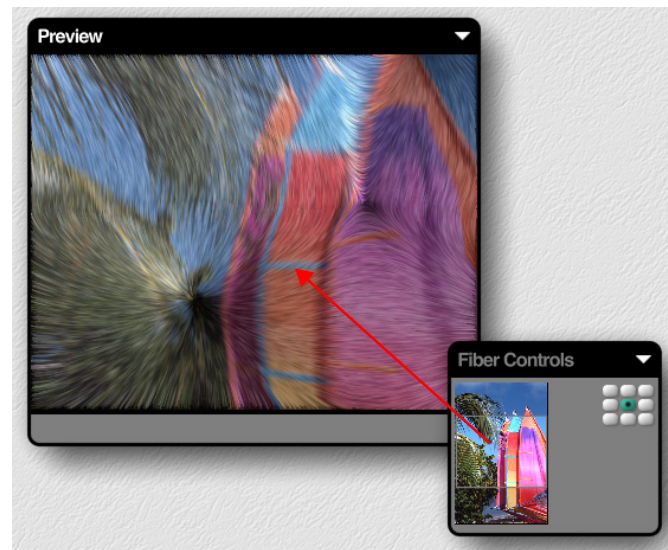
*Use the Fiber Controls preview to control the Main Preview display.*

Creating Fibers

Fibers are automatically generated when you enter the filter. Every time you change a parameter, new fibers are rendered. The Fiber Controls panel lets you control how fibers grow. You can control their length, the direction in which they grow and the amount of fibers generated.
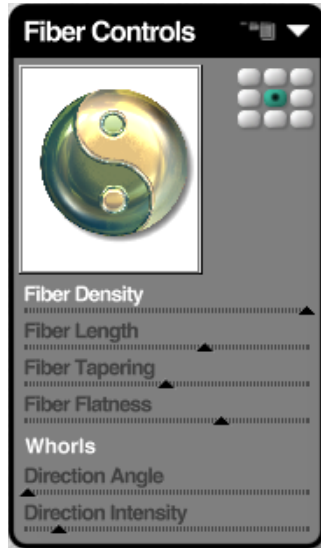
The Fiber Controls panel.

Setting Fiber Density

The Fiber Density slider controls the amount of fibers generated. At high density values, the entire image is filled with fibers creating a furry look. At lower settings, you'll be able to see individual fibers.
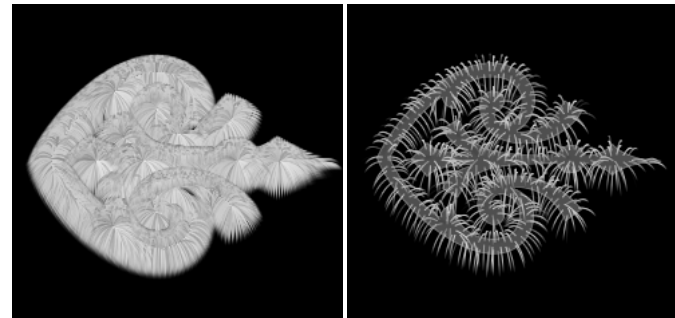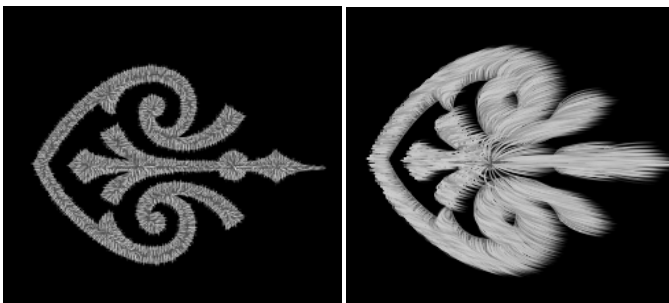

High and low Fiber Density settings.

Setting Fiber Length

Fiber Length controls the length of the fibers that grow from your image or mask. Higher length values take longer to render.

Longer fibers are also affected more by the Direction setting.

Low and high Fiber Length settings.

Adjusting Fiber Tapering

The Tapering setting defines where along the length of the fiber it starts to become transparent. The value of the setting defines how much of the fiber is solid and when the transparency begins to take affect. For example, at 60%, sixty percent of the fiber is solid and forty is transparent.

The setting becomes more important when you're using a gradient to color your fibers. You'll be able to see more of the gradient colors, the higher the Tapering value, since there's fiber to color.

Setting Fiber Flatness

Flatness controls the depth of the fibers. At higher settings, fibers grow out in all three dimensions. At lower values, fibers grow more two-dimensionally.

Setting Fiber Direction

As the fibers grow, you can apply a direction effect to alter their growth patterns. The direction setting pushes fibers in a specific angle as if they were being blown by the wind.
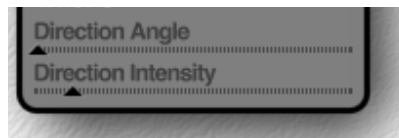
Direction settings on the Fiber Control panel.

Setting Direction Angle

The Direction Angle sets the general direction for fiber growth. Direction angle is set in degrees. For example, at 45°, the fibers tend to grow up and to the right.
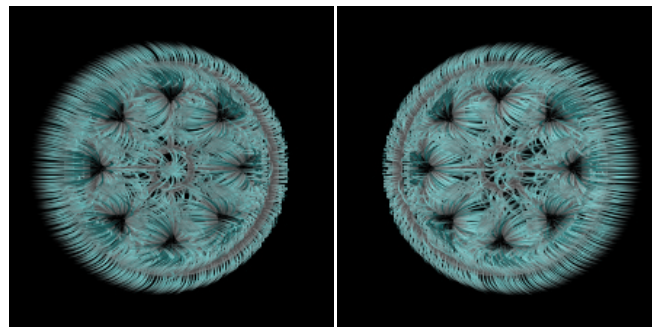
Examples of different Direction Angle settings.

Setting Direction Intensity

The Direction Intensity slider controls the intensity of the direction effect. It's like setting wind strength. The higher the Intensity setting, the stronger the wind and the more the fibers bend toward the wind direction.

Adjusting Growth Patterns

The Flow Styles let you control the direction of the fiber growth pattern. There are three styles you can use: Natural, Whorls, and Loop.

To change growth pattern modes:

⌘ In the Fiber Controls panel, click the arrow icon next to the Flow Style text label beneath the panel preview window and choose a style from the menu.
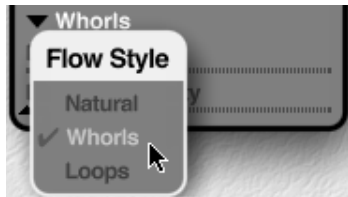
The Flow Style setting on the Fiber Control panel.

Natural

When the Natural option is enabled, fibers grow towards areas of light in the image.
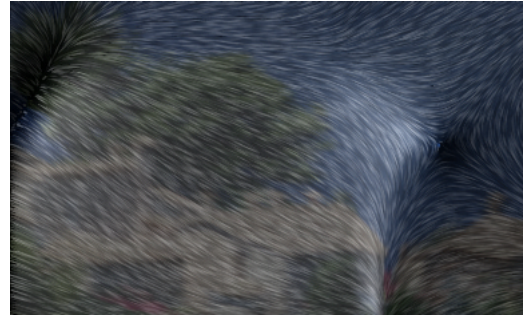
Example of Natural mode.

Whorls

When the Whorls option is enabled, fibers bend as they grow, creating whirling patterns.

Example of Whorls mode.

Loop

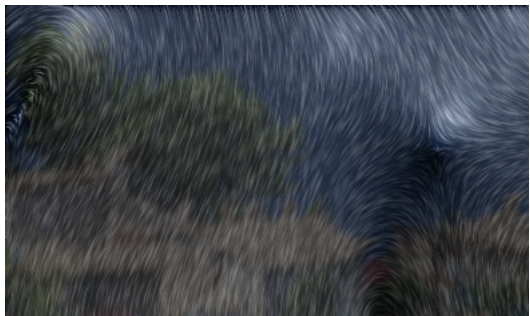The Loop option works like the Natural option, fibers grow towards areas of light, but the effect is more severe, creating pools of fibers.

Example of Loop mode.

Using Noise Maps with KPT FiberOptix

A noise map is a mathematically generated pattern of turbulence that disrupts the growth pattern of fibers. When you apply a noise map, you get wavy tendrils instead of hair-like fibers.

A noise map can either be a large random pattern, or a specific pattern. Since the noise affects how fibers grow, you can design a specific noise map image to create a unique effect.
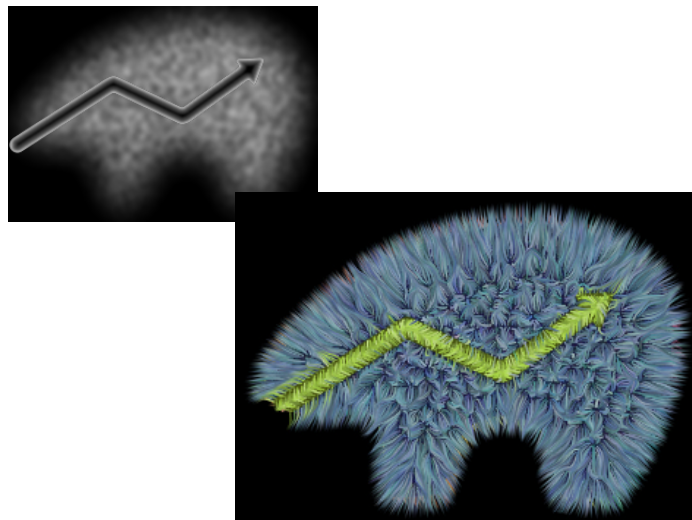
In this example, a very specific noise map image was used to create the growth pattern shown. The dark areas in and around the arrow cause the arrow fibers to grow more toward the center.

Loading a Noise Map

A noise map can be any black and white image. However, noise works better when its a randomly generated pattern. The algorithmic noise presets provide excellent patterns for creating various types of fibers.

The Noise panel.

To load algorithmic noise:

⌘ Click the title below the preview window and choose a noise from the menu.

To load a noise map:

1 In the Noise panel, click the thumbnail preview. The Open dialog appears.

2 Locate the image you want to use as a noise map and click Open. You can also use the panel's Option menu to load a map.

Scaling a Noise Map

The scale of your noise map determines how often the noise pattern is repeated within a map. A map that's scaled down creates more turbulence since it repeats more often within the map. A larger noise map produces less turbulence.

Blending Noise Maps

The Blend Noise to Mask slider in the Mask panel controls how much of the noise is applied to the fibers. The higher the value, the more turbulence is added to the growth pattern.

Setting Fiber Surface Properties

Normally, fibers take their color from the original background image. An individual fiber takes its color from the pixels directly beneath it in the original image. However, you can enhance or replace this color using the controls on the Fiber Color panel.
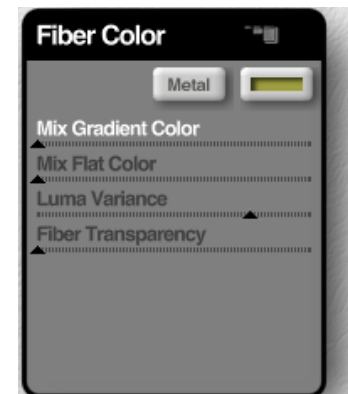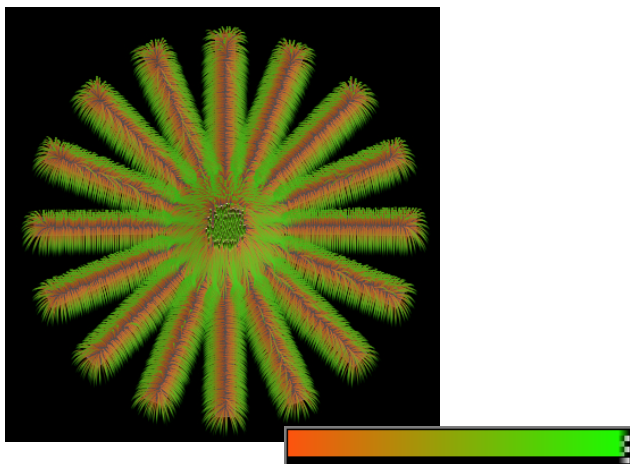

The Fiber Color panel.

Using a Gradient as a Tint

When you apply a tint using a gradient, each fiber is colored using the colors in the Gradient panel.

Use the controls on the Gradient panel to choose colors and set up a gradient. Refer to "Color Gradient Panel" on page 35 for more on designing a gradient.

An image with colored fibers and the gradient used to create it.

To apply a gradient to your fibers:

⌘ In the Fiber Color panel, drag the Mix Gradient Color slider.

Using a Tint Color

When you apply a tint, the colors in the image shift towards a specific uniform color. For example, if you choose Blue as your tint color, the more tint you apply, the more blue is added to the background image.

To choose a tint color:

⌘ In the Fiber Color panel, click the tint color dot and choose a color from the Color Picker.

The tint color dot.

To apply a tint color:

⌘ The Mix Flat Color slider lets you gradually apply the tint color to the original image.

The higher the value, the more the image colors shift toward the tint color.

Setting Luma Variance

The Luma Variance slider controls the color variance between fibers. At low values, the fibers are colored using the same color value. At higher values, color values vary more between fibers.

Setting Fiber Transparency

The Fiber Transparency slider controls the opacity of your fibers. At high settings, fibers appear almost invisible. At lower settings, fibers are opaque.

Lighting Fibers

Fibers are three dimensional objects, meaning that you can light them from any angle. The 3D Lighting panel contains all the controls you'll need to set light color and angles. Refer to "3D Lighting Panel" on page 30 for more on using the panel.

Using Masks with KPT FiberOptix

When you apply a mask to your image, the fibers grow out of the mask. The origin of each fiber is directly affected by the shape of the mask. Fibers grow to match the contours of the mask.
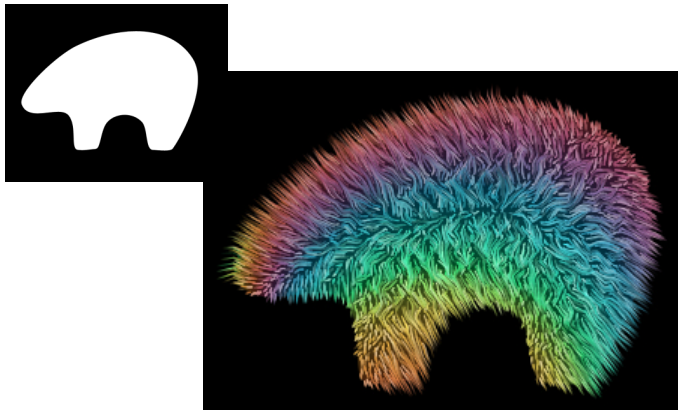
*A mask and the fibers grown out of the mask.*

The mask you use can be the same shape as the background image, or it can be a completely different shape. A mask can be any black and white image on your system. You can also use one of the presets in the Presets Library. Refer to "Working with the Presets Library" on page 38 for more on using the library.

TiP   If you make a selection before entering the filter, the fibers will grow out of the selection.

To use a mask with KPT FiberOptix:

1   In the Mask panel, click the preview. The Open dialog appears.
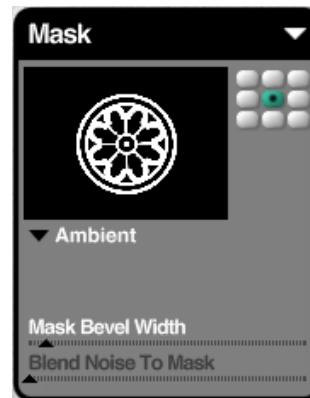
The Mask panel.

2   Locate the image you want to use and click Open.

Setting Bevel Width

The Mask Bevel Width setting adds height to the fibers. Higher bevel settings bend fibers, creating a dome-like effect.

Setting Background Surface Properties

Fibers grow out of an imaginary surface, like hair growing out of skin. The Mask Rendering options control this surface's appearance.

When you're working with a mask, the surface is the size of the mask. In this case, the rendering options control how the mask itself is colored. When you're working with just the image, the rendering options apply to the imaginary skin layer that covers the entire image.
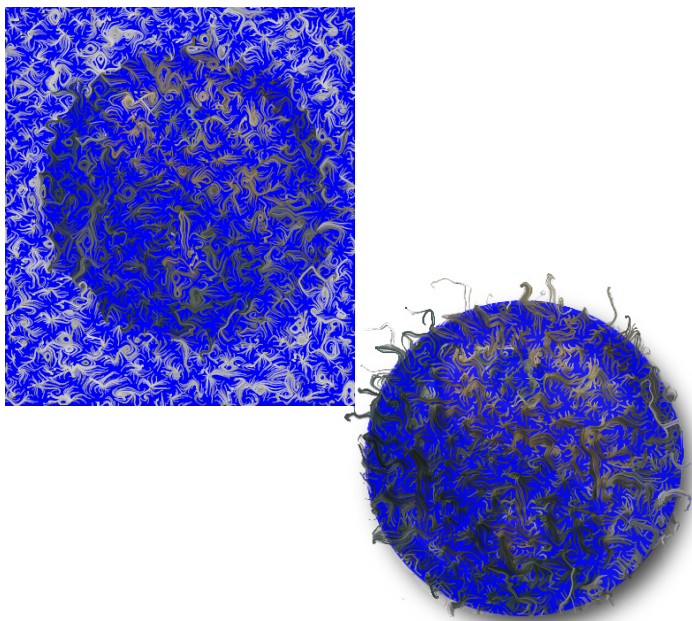
The Mask Rendering: Material option applied to an image without a mask, and the same setting applied to an image using a mask.

It's easier to see how the Mask Rendering options affect your image when the fibers are sparse.

To set surface properties:

⌘ Click the text label beneath the Mask panel's preview and choose an option from the menu. A checkmark appears next to the currently active option.
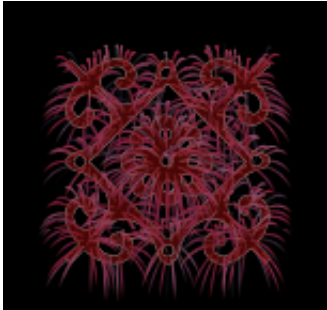
Shaded

When the Shaded option is active, a shaded gradient is applied to the surface.

An example of the Shaded option and the original image.

Dark

When the Dark option is active, the surface acts like a Darken channel operation. The result is a surface colored using the darkest colors in the original image.
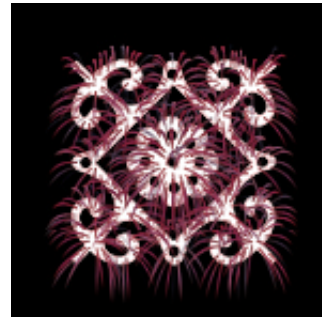

An example of the Dark option.

Ambient

The Ambient option does not apply any special properties to the surface. Fibers appear to grow out of the background image.

An example of the Ambient option.

White

When you use this option, the background is white.

An example of the White option.

Black

When you use this option, the background is black.

An example of the Black option.

Material

The Material option sets the background to the material color. You can choose a material color using the color dot.

An example of the Material option. A yellow material color was used.

Transparent

When this option is active, the image is transparent so in the final render all you'll see are the fibers.

An example of the Transparent option.

Previewing Fibers

KPT FiberOptix has three preview options that control how your fiber preview is rendered.

Fast Edge Render

This mode renders the least amount of fiber detail. However, it is very fast. Use it when you're experimenting with settings.

Average Edge Render

This mode produces a good quality render of your image and is faster than Accurate Edge.

Accurate Edge Render

This is the slowest render, but the most precise. Use it when you want to see what your final effect will look like.

To choose a render preview mode:

⌘ Click the arrow icon at the top of the Main Preview window and choose a mode from the options menu.