



26.2.2 Editors - Properties Editor - Render Properties Tab - EEVEE

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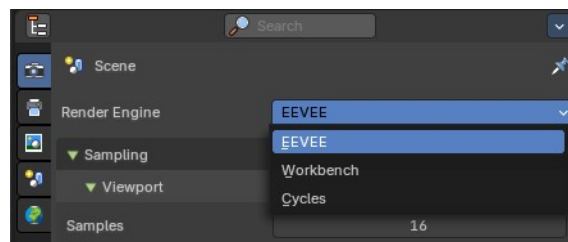
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Render Tab

There are three different render engines available. Workbench, Eevee, and Cycles. This chapter has a focus on the Eevee render engine.



Sampling panel

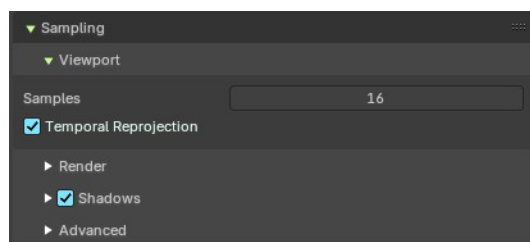
Viewport subtab

Samples

The number of samples when rendering in the viewport.

Temporal Projection

Denoise image using a method called temporal reprojection. This method can leave some ghosting.



Render subtab

Samples

The number of samples when rendering to file.



Shadows subtab

Rays

The number of samples when rendering to file.

Steps

Amount of shadow ray sample per shadow ray.

Volume Shadows

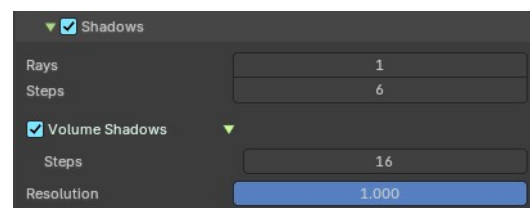
Generate shadows from volumetric material. This is very resources hungry.

Steps

Number of samples to compute volumetric shadowing.

Resolution

The resolution scale of the shadow map.



Clamping panel

In this panel you can clamp the light values to minimum and maximum values.

Surface subtab

Direct Light

The maximum value for lights contribution on a surface. A value of zero disables this feature. Higher values will be scaled down to avoid too much noise and slow convergence at the cost of accuracy. Used by light objects.

Indirect Light

The maximum value for indirect lighting on a surface. A value of zero disables this feature. Higher values will be scaled down to avoid too much noise and slow convergence at the cost of accuracy. Used by ray-tracing and light-probes.

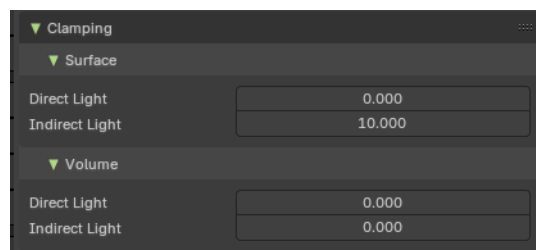
Volume subtab

Direct Light

The maximum value for lights contribution in volumes. A value of zero disables this feature. Higher values will be scaled down to avoid too much noise and slow convergence at the cost of accuracy. Used by light objects.

Indirect Light

The maximum value for indirect lighting in volumes. A value of zero disables this feature. Higher values will be scaled down to avoid too much noise and slow convergence at the cost of accuracy. Used by light-probes.



Raytracing panel

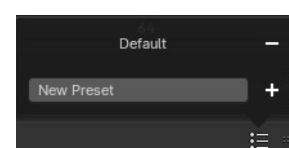
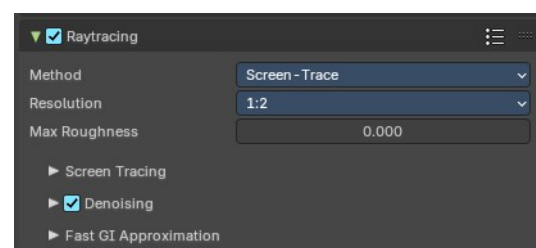
Use Ray-Tracing

Use ray-tracing.

Presets

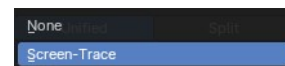
Allows you to store raytracing presets. To add a new preset type in a new preset name into the edit box at the end of the list, and click at the + sign.

To remove a preset click at the - sign behind the name.



Method

Select the tracing method to find scene-ray intersections.



None

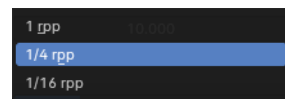
Do nothing.

Screen-Trace

Raytracing against the depth buffer.

Resolution

The ray-tracing resolution. 1 Ray per pixel, 1 ray per 4 pixel, 1 ray per 16 pixel.



Clamp

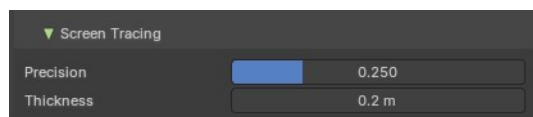
Clamp ray intensity to reduce noise. Coose 0 to disable clamping.

Screen tracing subpanel

Just visible with the method Screen-Trace

Precision

Precision of screen space ray-tracing.



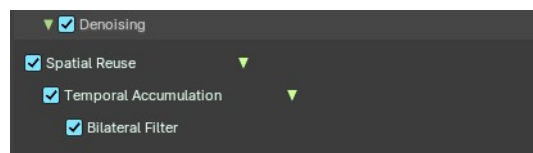
Thickness

Surface Thickness used to detect intersection when using screen-tracing.

Denoising Subpanel

Denoising

Enable Denoising for raytraced effects.



Spatial Reuse

Reuse the rays of neighbour pixe.

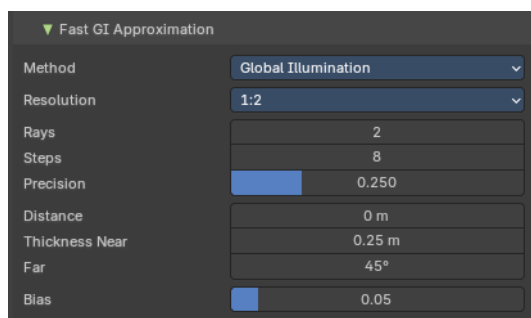
Temporal Accumulation

Accumulate samples by reprojecting last tracing results

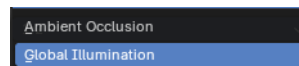
Bilateral Filter

Blur the resolved radiance by reprojecting last tracing result of the temporal accumulation.

Fast GI Approximation subpanel



Method



Global Illumination

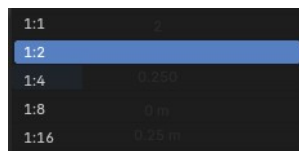
Computes global illumination. It takes light bounces off surrounding objects into account.

Ambient occlusion

Uses Ambient occlusion instead of Global Illumination. Ambient Occlusion is self shadowing, and doesn't calculate colors.

Resolution

The resolution of the AO or GI map. It is relative to the render resolution. 1 is the size of the full render resolution, 1/2 is half the size of render resolution, and so on.



Rays

Amount of GI or AO rays to trace for each pixel.

Steps

Amount of screen sample per GI or AO ray.

Precision

Precision of the Fast GI ray matching.

Distance

If non zero, the maximum distance at which other surfaces will contribute to the Fast GI approximation.

Thickness near / far

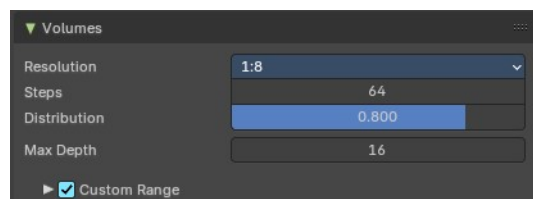
Geometric thickness of the surfaces when computing GI or AO. This feature reduces light leaking and missing contact occlusion.

Bias

Bias the shading normal to reduce self intersection artifacts.

Volumes panel

Contains volumetrics settings.



Resolution

The resolution of the Volumes map. It is relative to the render resolution. 1 is the size of the full render resolution, 1/2 is half the size of render resolution, and so on.

Steps

Number of samples to compute for the volumetrics effect.

Distribution

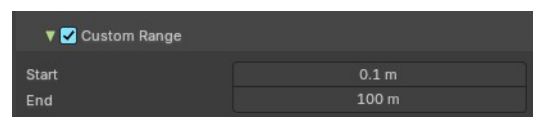
Distribute more samples closer to the camera.

Max Depth

Maximum surface intersection count used by the accurate volume intersection method. This feature will create artifacts if it is exceeded.

Custom Range subpanel

Enable custom start and end distances for volume computation.



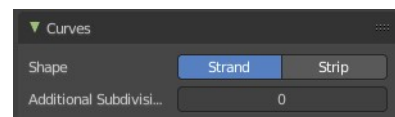
Start / End

The start and end values for computation.

Curves panel

Shape

Choose if the hair is displayed as strand or as strip.



Additional Subdiv

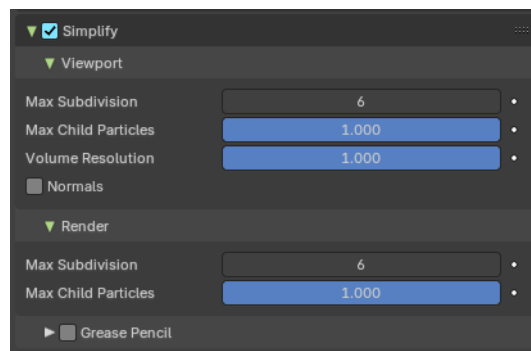
Additional subdivision along the hair.

Simplify panel

Sometimes you want to simplify the rendering without to loose the already tweaked settings and adjustments. For test renderings for example. Simplify allows you to simplify the rendering.

Enable

In the header is a checkbox to enable Simplify.



Viewport subpanel

This section affects the rendering with Eevee in the Viewport.

Max Subdivisions

Limit the number of maximum subdivisions.

Max Child Particles

Limit the number of child particles.

Volume Resolution

Simplify volumes by setting the resolution percentage of volume objects in viewport.

Normals

Skip computing custom normals and face corner normals for displaying meshes in the viewport.

Render

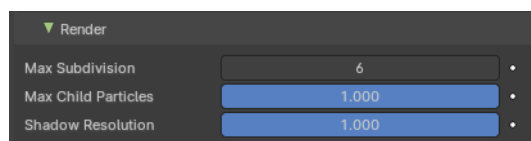
This section affects the rendering with Eevee to file.

Max Subdivisions

Limit the number of maximum subdivisions.

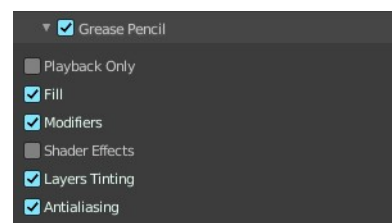
Max Child Particles

Limit the number of child particles.



Grease Pencil

This section affects Grease Pencil drawings.



Enable

Enables the Grease Pencil features.

Playback Only

Simplify Grease Pencil only during animation playback.

Fill

Display Fill strokes in the Viewport.

Modifiers

Apply modifiers in the viewport.

Shader Effects

display shader effects.

Layers Tinting

Display layers tint.

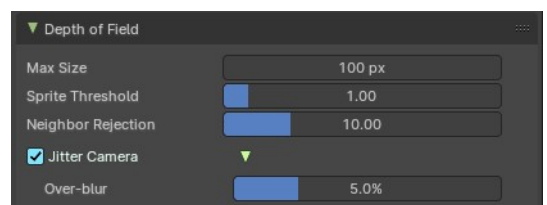
Antialiasing

Use antialiasing to smooth stroke edges.

Depth of Field panel

Max Size

The maximum size of the bokeh shape for Depth of Field. Lower is faster.



Sprite Threshold

Brightness threshold for using sprite base depth of field.

Neighbor Rejection

The maximum brightness to consider when rejecting bokeh sprites based on neighborhood. Lower is faster.

Jitter Camera

Jitter the camera to create accurate blurring by using render samples.

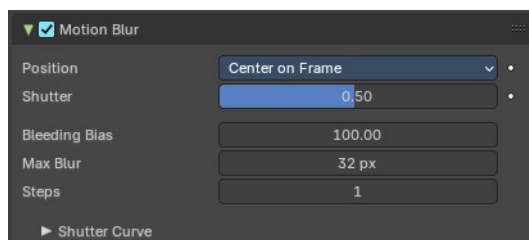
Overblur

Apply blur to each jittered sample to reduce undersampling artifacts.

Motion Blur panel

Enable Motion Blur and adjust the settings.

Each object has also its own settings to control motion blur. These options can be found in the corresponding Object tab of the Properties editor.

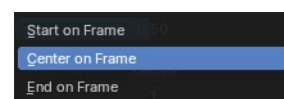


Enable

In the header is a checkbox to enable Simplify.

Position

Controls at what point the shutter opens in relation to the frame.



Shutter

Time taken in frames between shutter open and close.

Bleeding Bias

Reduce background bleeding onto foreground elements. Lower values = less bleeding.

Max Blur

The maximum blur distance that a pixel can spread over.

Steps

Controls the accuracy of motion blur. More steps means longer render time.

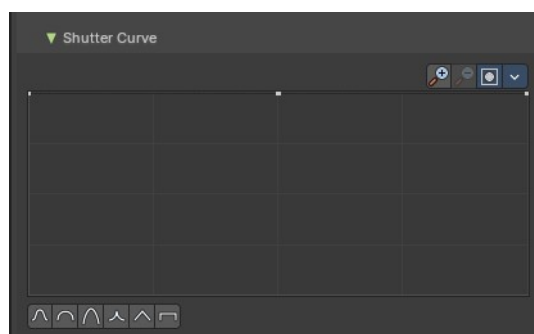
Shutter Curve

Sutter curve is a sub menu wAdjust a curve for the shutter effect.

Navigation elements



The navigation elements at the top are described from left to right.

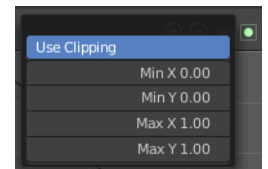


Zoom in and out

The two buttons with the magnifying glass at it zooms in and out in the curve window.

Use Clipping

Clipping options. Set up clipping for the stroke.



Tools

Tools is a menu that contains some curve related tools.



Reset View

Resets the curve windows zoom.

Extend Horizontal

Causes the curve to stay horizontal before the first point and after the last point.

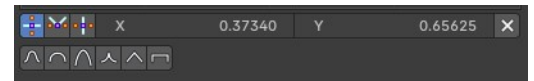
Extend Extrapolated

Causes the curve to extrapolate before the first point and after the last point, based on the shape of the curve.

Reset Curve

Resets the curve to the initial shape.

Handles



Vector Handle

Set handle type to Vector.

Auto Handle

Set handle type to Auto.

Auto Clamped Handle

Set handle type to Auto Clamped.

X and Y values

The coordinates of the currently selected curve point.

Presets

Curve presets.



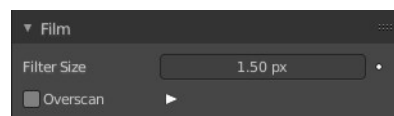
Delete Points

Deletes selected curve points.

Film panel

Filter Size

The width over which the reconstruction filter combines samples.



Animate Property

This property can be animated. Activating this button sets a keyframe.

Overscan

Internally render past the image borders to avoid screen space effects disappearing.



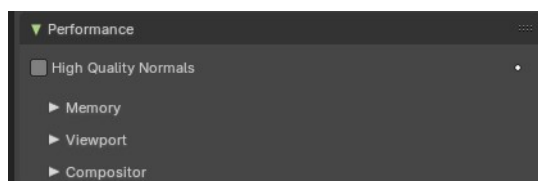
Overscan Size

How much bigger the image should be internally rendered.

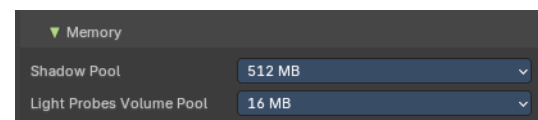
Performance panel

High Quality Normals

Use high quality tangent space. Slower but more accurate.

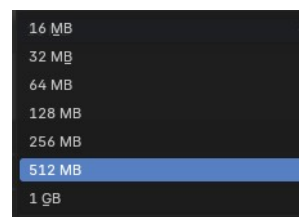


Memory Subpanel



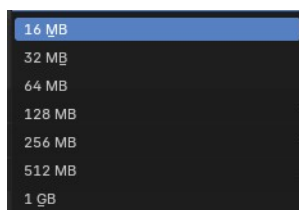
Shadow Pool

How much shadow data can be allocated for the scene. More ram usage means more possible shadows. This affects the GPU ram usage.

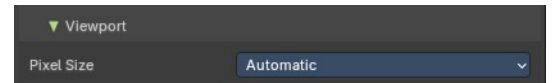


Light Probes Volume Pool

How much Light probes Volume data can be allocated for the scene. More ram usage means more possible light probes volumes. This affects the GPU ram usage.



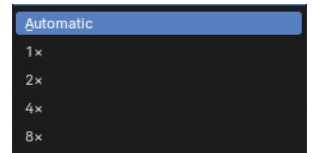
Viewport Subpanel



Pixel Size

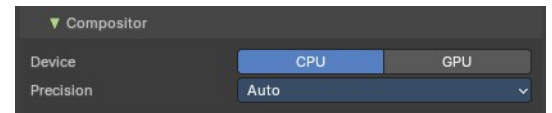
The pixel size for viewport rendering.

Automatic depends of the user interface scale. 1 renders at full resolution. 8 renders just in 12.5% of the size.



Compositor Subpanel

Realtime compositor settings.



Device

Which device to use for realtime compositing.

Precision

Auto

Full precision at rendering, half precision otherwise.

Full

Full precision in all cases.

